

Contour lines and isotherms based on radiosonde observations at 0300 G.C.T., and winds based on pilot balloon observations at 2200 G.C.T.

QC  
983  
A27  
VOLUME 75

[W. B. No. 1487]

NUMBER 2

UNITED STATES DEPARTMENT OF COMMERCE  
W. AVERELL HARRIMAN, *Secretary*  
WEATHER BUREAU - - - F. W. Reichelderfer, *Chief*

# MONTHLY WEATHER REVIEW

FEBRUARY 1947

## CONTENTS

METEOROLOGICAL AND CLIMATOLOGICAL DATA:		SOLAR RADIATION AND SUNSPOT DATA:	
Aerological Observations.....	Page 10	Solar Radiation Observations.....	Page 30
River Stages and Floods.....	24	Positions, Areas, and Counts of Sunspots.....	32
Climatological Data.....	25	Provisional Relative Sunspot Numbers for February 1947.....	34
		CHARTS I-XI.	







# MONTHLY WEATHER REPORT

Acting Editor, Robert N. Culnan

VOL. 75, No. 2  
W. B. No. 1487

FEBRUARY 1947

CLOSED April 5, 1947  
ISSUED May 15, 1947

## METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR FEBRUARY 1947

### AEROLOGICAL OBSERVATIONS

[For description of change in Table 1 and charts, see REVIEW, January 1946, p. 61]

TABLE 1.—Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during February 1947

#### STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Albany, N. Y. (998.6 mb.)				Albuquerque, N. Mex. (836.9 mb.)				Apalachicola, Fla. (1,018.3 mb.)				Atlanta, Ga. (982.0 mb.)				Auburn, Calif. (958.8 mb.)				Big Spring, Tex. (929.8 mb.)				Bismarck, N. Dak. (949.6 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	25	86	-6.5	73	28	1,620	7.4	31	28	5	9.8	69	28	300	3.0	55	28	501	9.6	82	28	774	5.3	44	28	505	-11.4	84
1,000	25	75	—	—	28	126	—	—	28	155	10.3	60	28	151	—	—	28	149	—	—	28	171	—	—	28	186	—	—
950	25	478	-8.3	73	28	565	—	—	28	583	8.6	52	28	571	2.8	51	28	582	10.7	76	28	595	—	—	28	585	-12.3	85
900	25	892	-10.7	77	28	1,018	—	—	28	1,026	6.8	48	28	1,004	—	—	28	1,028	9.8	57	28	1,040	6.1	43	28	996	-11.6	81
850	25	1,329	-12.1	78	28	1,492	—	—	28	1,494	5.0	47	28	1,461	-1.2	49	28	1,501	7.5	54	28	1,506	4.3	43	28	1,434	-11.6	81
800	25	1,792	-13.3	74	28	1,990	6.1	32	28	1,987	3.1	45	28	1,943	-2.7	46	28	1,998	4.7	50	28	2,000	4.2	35	28	1,898	-12.7	73
750	25	2,288	-13.7	65	28	2,543	2.6	35	28	2,512	1.1	42	28	2,460	-4.3	38	28	2,525	1.4	50	28	2,528	2.7	32	28	2,395	-13.7	61
700	25	2,806	-15.8	66	28	3,068	-1.1	38	28	3,060	-1.5	—	28	2,995	-6.0	—	28	3,072	-2.0	46	28	3,079	-4.4	32	28	2,913	-15.5	55
650	25	3,370	-18.4	66	28	3,656	-5.2	41	28	3,652	-4.3	—	28	3,578	-8.5	—	28	3,662	-5.8	42	28	3,671	-4.1	29	28	3,473	-17.9	48
600	25	3,957	-20.6	63	28	4,278	-9.5	46	28	4,273	-8.1	—	28	4,189	-12.0	—	28	4,280	-9.9	44	28	4,293	-8.5	—	28	4,064	-21.3	—
550	25	4,601	-24.2	—	28	4,944	-14.0	45	28	4,947	-11.9	—	28	4,852	-16.1	—	28	4,947	-14.1	40	27	4,963	-13.1	—	28	4,798	-24.6	—
500	24	5,278	-28.7	—	28	5,658	-19.0	40	28	5,660	-16.5	—	28	5,561	-20.4	—	28	5,662	-19.1	49	27	5,679	-18.1	—	24	5,390	-28.7	—
450	24	6,032	-33.7	—	28	6,437	-24.9	—	27	6,458	-21.7	—	27	6,343	-25.7	—	28	6,444	-24.7	—	26	6,462	-23.5	—	24	6,143	-33.2	—
400	24	6,844	-39.2	—	28	7,279	-31.1	—	27	7,311	-27.6	—	26	7,177	-31.4	—	28	7,284	-31.2	—	26	7,311	-29.7	—	24	6,956	-38.4	—
350	24	7,747	-45.2	—	28	8,212	-38.1	—	26	8,257	-34.5	—	25	8,105	-38.4	—	28	8,215	-38.7	—	25	8,242	-36.7	—	21	7,862	-44.2	—
300	24	8,763	-50.4	—	26	9,251	-46.1	—	24	9,319	-42.1	—	25	9,148	-45.5	—	28	9,254	-47.0	—	20	9,290	-43.9	—	19	8,903	-50.0	—
250	20	9,937	-53.7	—	21	10,453	-53.3	—	24	10,528	-50.3	—	25	10,343	-52.5	—	28	10,437	-55.8	—	17	10,493	-51.1	—	10	10,187	-55.0	—
200	18	11,352	-52.9	—	11	11,909	-60.4	—	23	11,966	-55.1	—	21	11,770	-55.0	—	22	11,834	-62.1	—	7	11,927	-52.5	—	—	—	—	—
175	13	12,190	-51.4	—	—	—	—	—	22	12,822	-58.1	—	18	12,604	-54.5	—	18	12,648	-60.4	—	5	12,782	-55.6	—	—	—	—	—
150	9	13,215	-49.9	—	—	—	—	—	17	13,769	-61.7	—	13	13,582	-55.1	—	11	13,633	-58.3	—	—	—	—	—	—	—	—	—
125	5	14,387	-50.6	—	—	—	—	—	10	14,867	-65.6	—	12	14,722	-58.0	—	11	14,775	-60.4	—	—	—	—	—	—	—	—	—

Standard pressure surface (mb.)	Boise, Idaho (918.3 mb.)				Brownsville, Tex. (1,018.4 mb.)				Buffalo, N. Y. (983.3 mb.)				Caribou, Maine (978.3 mb.)				Charleston, S. C. (1,014.3 mb.)				Ciudad Victoria, Mexico (978.3 mb.)				Columbia, Mo. (991.6 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	27	868	3.3	72	28	6	13.2	81	28	221	-5.7	80	28	191	-8.7	91	28	14	5.8	60	28	335	16.7	53	28	239	-3.0	90
1,000	27	169	—	—	28	158	13.3	77	28	89	—	—	28	19	—	—	28	130	7.4	52	28	145	—	—	28	172	—	—
950	27	594	—	—	28	596	12.2	72	28	495	-7.3	79	28	419	-8.7	89	28	554	6.0	47	28	582	15.4	53	28	580	-4.5	61
900	27	1,032	4.6	60	28	1,042	11.0	63	28	909	-10.1	82	28	834	-10.3	90	28	993	3.5	50	28	1,041	12.4	58	28	1,001	-6.7	63
850	27	1,496	2.4	62	28	1,519	9.7	51	28	1,347	-12.6	84	28	1,274	-11.1	91	28	1,454	1.0	52	28	1,518	10.1	61	28	1,446	-7.7	58
800	27	1,984	-1.1	62	28	2,021	8.4	47	28	1,808	-14.7	84	28	1,738	-12.4	87	28	1,939	-1.4	47	28	2,021	8.4	60	28	1,917	-8.1	52
750	27	2,499	-2.9	58	28	2,560	6.5	35	28	2,304	-15.6	71	28	2,233	-14.7	85	28	2,457	-3.4	39	28	2,559	6.3	58	28	2,424	-9.2	49
700	27	3,041	-6.0	59	28	3,116	3.8	30	28	2,815	-17.1	66	28	2,750	-16.6	78	28	2,996	-5.0	—	28	3,117	4.4	53	28	2,949	-11.4	50
650	27	3,619	-9.6	62	28	3,715	0.4	29	28	3,376	-19.6	64	28	3,309	-19.3	71	28	3,581	-7.6	—	27	3,716	1.2	43	28	3,519	-14.2	50
600	27	4,232	-13.4	58	28	4,351	-3.7	—	28	3,959	-22.1	—	28	3,896	-22.4	—	28	4,194	-11.0	—	26	4,357	-2.3	40	28	4,118	-17.4	46
550	27	4,891	-17.1	52	28	5,035	-8.1	—	27	4,599	-25.8	—	28	4,535	-26.3	—	27	4,866	-15.1	—	26	5,042	-6.2	41	27	4,763	-21.6	—
500	26	5,600	-22.0	—	28	5,767	-12.5	—	27	5,283	-29.4	—	27	5,217	-30.3	—	27	5,576	-19.3	—	26	5,783	-11.1	44	27	5,458	-25.7	—
450	26	6,372	-27.6	—	28	6,571	-17.6	—	27	6,037	-34.0	—	27	5,966	-35.2	—	27	6,356	-24.8	—	26	6,588	-16.1	42	25	6,229	-30.5	—
400	26	7,204	-33.7	—	28	7,437	-23.2	—	27	6,845	-39.3	—	24	6,783	-39.7	—	26	7,199	-30.8	—	26	7,464	-22.3	—	24	7,054	-35.9	—
350	26	8,126	-40.9	—	27	8,402	-29.9	—	27	7,747	-45.2	—	23	7,694	-45.3	—	25	8,130	-37.2	—	26	8,432	-29.6	—	24	7,960	-42.3	—
300	26	9,156	-49.1	—	26	9,482	-37.7	—	25	8,768	-50.5	—	20	8,695	-49.9	—	25	9,178	-44.6	—	24	9,511	-37.1	—	23	9,009	-49.1	—
250	26	10,327	-58.4	—	24	10,716	-45.8	—	23	9,950	-53.8	—	20	9,877	-52.9	—	23	10,393	-53.0	—	21	10,749	-45.5	—	17	10,228	-53.8	—
200	21	11,715	-64.4	—	16	12,176	-52.6	—	18	11,376	-53.3	—	10	11,342	-51.0	—	21	11,823	-54.7	—	10	12,186	-53.3	—	10	11,685	-57.6	—
175	16	12,517	-61.4	—	9	13,001	-56.5	—	13	12,268	-51.6	—	8	12,202	-50.0	—	16	12,672	-56.4	—	—	—	—	—	7	12,572	-58.7	—
150	11	13,447	-58.3	—	6	13,958	-60.1	—	12	13,263	-52.7	—	5	13,242	-48.9	—	13	13,629	-58.4	—	—	—	—	—	5	13,563	-56.4	—
125	10	14,583	-57.9	—	—	—	—	—	6	14,458	-51.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

See footnotes at end of table.

737729-47

TABLE 1.—Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during February 1947—Continued

Standard pressure surface (mb.)	Dodge City, Kans. (927.6 mb.)				El Paso, Tex. (881.8 mb.)				Ely, Nev. (800.0 mb.)				Fort Worth, Tex. (906.3 mb.)				Glasgow, Mont. (945.6 mb.)				Grand Junction, Colo. (853.4 mb.)				Great Falls, Mont. (890.0 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity				
Surface	28	787	-1.3	56	28	1,195	10.5	27	28	1,908	0.8	73	28	211	6.2	50	28	648	-11.9	80	28	1,474	2.0	67	27	1,128	-6.1	70
1,000	28	178	(*)	---	28	129	(*)	---	28	163	(*)	---	28	179	(*)	---	28	214	(*)	---	28	171	(*)	---	27	201	(*)	---
950	28	596	(*)	---	28	573	(*)	---	28	596	(*)	---	28	603	5.7	45	28	614	(*)	---	28	603	(*)	---	27	617	(*)	---
900	28	1,028	-5.5	51	28	1,029	(*)	---	28	1,040	(*)	---	28	1,041	3.1	49	28	1,026	-11.1	78	28	1,046	(*)	---	27	1,043	(*)	---
850	28	1,486	-11.1	49	28	1,502	11.2	26	28	1,506	(*)	---	28	1,502	1.6	49	28	1,464	-11.2	75	28	1,506	(*)	---	27	1,487	-6.2	69
800	28	1,967	-3.2	51	28	2,005	8.3	26	28	1,998	3.0	59	28	1,991	1.2	49	28	1,930	-10.9	74	28	1,995	1.2	51	27	1,960	-7.8	68
750	28	2,481	-5.2	54	28	2,539	5.0	26	28	2,523	0.5	55	28	2,513	-6.6	46	28	2,429	-12.4	70	28	2,516	-1.8	57	27	2,465	-9.8	68
700	28	3,016	-6.9	49	28	3,093	9.9	29	28	3,069	-3.5	60	28	3,059	-2.5	39	28	2,949	-14.8	65	28	3,058	-5.3	59	27	2,990	-12.1	63
650	28	3,596	-9.6	50	28	3,686	-3.3	32	28	3,655	-6.8	54	28	3,646	-5.9	36	28	3,513	-17.9	61	28	3,636	-9.0	57	27	3,560	-15.1	59
600	28	4,205	-13.6	49	28	4,311	-7.6	---	28	4,272	-10.6	47	28	4,265	-10.0	---	28	4,101	-21.1	---	28	4,250	-12.8	57	27	4,154	-18.7	57
550	28	4,862	-18.2	50	28	4,983	-12.2	---	28	4,935	-15.0	49	28	4,932	-14.4	---	28	4,741	-24.6	---	28	4,908	-17.3	54	27	4,801	-22.3	---
500	28	5,566	-22.8	---	28	5,704	-17.6	---	28	5,649	-20.1	53	26	5,645	-19.6	---	28	5,427	-28.4	---	28	5,613	-22.1	---	27	5,492	-26.9	---
450	28	6,334	-28.4	---	28	6,489	-23.3	---	28	6,427	-25.7	25	26	6,424	-25.4	---	27	6,185	-33.1	---	26	6,386	-27.4	---	27	6,247	-32.2	---
400	27	7,167	-34.4	---	28	7,336	-29.4	---	28	7,265	-32.0	25	25	7,265	-32.2	---	27	6,998	-38.8	---	26	7,216	-33.6	---	27	7,066	-37.8	---
350	26	8,092	-40.8	---	28	8,274	-36.6	---	28	8,194	-39.0	25	25	8,195	-38.5	---	26	7,898	-45.1	---	24	8,130	-40.6	---	27	7,973	-44.4	---
300	25	9,112	-48.4	---	28	9,324	-44.3	---	28	9,233	-47.2	21	21	9,229	-45.8	---	26	8,911	-51.9	---	22	9,177	-48.1	---	27	8,990	-51.6	---
250	23	10,302	-55.9	---	26	10,529	-52.1	---	28	10,414	-56.3	17	17	10,411	-52.8	---	22	10,096	-57.0	---	20	10,349	-56.1	---	25	10,159	-58.6	---
200	18	11,686	-68.3	---	17	11,958	-57.3	---	17	11,818	-61.3	18	18	11,873	-56.9	---	14	11,487	-59.5	---	12	11,720	-60.6	---	16	11,547	-61.0	---
175	14	12,512	-56.0	---	12	12,804	-57.3	---	9	12,638	-58.5	---	---	---	---	---	10	12,320	-56.9	---	10	12,543	-58.0	---	13	12,384	-57.0	---
150	9	13,481	-55.4	---	---	---	---	---	---	---	---	---	---	---	---	---	7	13,290	-55.3	---	6	13,518	-57.4	---	8	13,341	-56.5	---
125	5	14,649	-57.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	14,663	-59.3	---	---	---	---	---	

Standard pressure surface (mb.)	Greensboro, N. C. (982.3 mb.)				Hatteras, N. C. (1,013.2 mb.)				Havana, Cuba (1,010.0 mb.)				Honolulu, T. H. (1,012.9 mb.)				Huntington, W. Va. (996.2 mb.)				International Falls, Minn. (975.3 mb.)				Joliet, Ill. (995.1 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity				
Surface	28	273	-0.6	57	27	3	5.2	69	26	50	20.0	78	28	3	24.2	64	28	172	-3.5	72	28	300	-14.9	82	28	178	-6.9	79
1,000	28	128	(*)	---	27	110	5.3	64	26	136	19.7	77	28	115	22.3	65	28	142	(*)	---	28	170	(*)	---	28	139	(*)	---
950	28	544	-3.3	52	27	532	3.0	54	26	579	16.8	79	28	562	18.5	70	28	548	-5.4	70	28	561	-15.4	84	28	541	-8.9	78
900	28	971	-2.9	53	27	973	4.4	52	26	1,036	13.7	80	28	1,020	14.7	73	28	969	-8.2	76	28	965	-16.7	88	28	956	-10.6	76
850	28	1,422	-5.0	54	27	1,419	-2.0	50	26	1,515	10.8	72	28	1,501	11.7	71	28	1,411	-10.2	76	28	1,395	-15.2	81	28	1,395	-11.0	70
800	28	1,897	-6.7	55	27	1,900	-4.1	48	26	2,020	9.5	52	28	2,008	10.6	45	28	1,876	-11.8	74	28	1,853	-15.0	73	28	1,860	-11.9	64
750	28	2,406	-8.8	49	27	2,412	-6.1	---	26	2,561	7.7	40	28	2,551	8.9	37	28	2,375	-13.4	62	28	2,342	-16.3	63	28	2,359	-13.5	59
700	28	2,932	-10.8	46	27	2,944	-8.2	---	26	3,120	4.7	42	28	3,112	6.6	---	28	2,892	-15.1	60	27	2,855	-18.6	62	28	2,874	-15.4	54
650	27	3,501	-13.7	40	27	3,524	-11.1	---	26	3,720	1.0	45	28	3,719	3.3	---	28	3,452	-17.3	56	27	3,410	-20.9	59	28	3,438	-18.2	54
600	27	4,101	-17.1	43	26	4,133	-14.1	---	26	4,361	-2.0	41	27	4,361	-4.4	---	28	4,047	-20.3	56	27	3,993	-24.1	---	28	4,025	-21.4	---
550	27	4,751	-20.5	---	25	4,785	-18.2	---	26	5,049	-5.5	---	26	5,057	-4.4	---	28	4,686	-23.8	---	26	4,622	-27.7	---	28	4,666	-24.9	---
500	27	5,449	-24.5	---	25	5,488	-22.7	---	26	5,791	-9.6	---	24	5,799	-9.4	---	28	5,377	-27.9	---	25	5,308	-31.3	---	28	5,349	-29.2	---
450	26	6,210	-29.2	---	25	6,256	-28.2	---	26	6,600	-14.5	---	24	6,613	-15.5	---	28	6,131	-32.3	---	24	6,059	-35.7	---	28	6,101	-33.5	---
400	26	7,037	-34.7	---	25	7,088	-33.7	---	26	7,480	-20.2	---	23	7,480	-21.3	---	27	6,957	-37.7	---	23	6,869	-40.8	---	28	6,912	-39.3	---
350	26	7,956	-41.1	---	25	8,011	-40.1	---	25	8,453	-27.9	---	22	8,454	-27.6	---	25	7,872	-43.6	---	22	7,769	-46.8	---	28	7,805	-45.5	---
300	26	8,989	-47.6	---	25	9,048	-46.7	---	24	9,540	-36.6	---	21	9,550	-34.3	---	28	8,907	-49.0	---	20	8,774	-53.1	---	25	8,811	-50.7	---
250	25	10,179	-53.1	---	23	10,236	-53.2	---	24	10,776	-45.9	---	18	10,809	-42.6	---	22	10,091	-53.6	---	14	9,932	-57.6	---	23	10,002	-53.7	---
200	23	11,606	-55.1	---	18	11,638	-54.7	---	23	12,233	-54.6	---	14	12,305	-51.4	---	13	11,436	-62.0	---	8	11,353	-65.0	---	16	11,455	-54.5	---
175	22	12,455	-54.6	---	12	12,479	-53.0	---	22	13,080	-59.9	---	7	13,151	-56.3	---	8	12,353	-63.6	---	---	---	---	---	10	12,296	-53.0	---
150	19	13,413	-54.9	---	11	13,476	-54.5	---	19	14,059	-65.2	---	---	---	---	---	5	13,282	-63.0	---	---	---	---	---	---	---	---	
125	13	14,573	-56.3	---	---	---	---	---	8	15,113	-72.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

Standard pressure surface (mb.)	Lake Charles, La. (1,020.1 mb.)				Lander, Wyo. (829.0 mb.)				Las Vegas, Nev. (949.1 mb.)				Little Rock, Ark. (1,011.4 mb.)				Matatlan, Mexico (1,011.0 mb.)				Medford, Oreg. (970.4 mb.)				Merida, Mexico (1,013.2 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity				
Surface	28	5	8.0	72	28	1,696	-4.1	59	28	574	13.1	33	28	79	2.9	56	22	14	21.6	77	28	401	8.2	77	28	27	22.3	72
1,000	28	170	8.8	62	28	1862																						



TABLE 1.—Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during February 1947—Continued

Standard pressure surface (mb.)	Miami, Fla. (1,016.9 mb.)				Nantucket, Mass. (1,004.7 mb.)				Nashville, Tenn. (997.1 mb.)				New Orleans, La. (1,019.6 mb.)				North Platte, Nebr. (920.5 mb.)				Oakland, Calif. (1,017.1 mb.)				Ogden, Utah (806.0 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface.....	27	4	15.3	74	27	14	-1.1	71	28	180	0.0	62	28	2	9.5	64	28	849	-4.3	73	28	6	11.7	81	28	1,355	2.0	71
1,000.....	27	146	16.0	68	27	51	(*)	66	28	156	(*)	57	28	162	9.7	56	28	186	(*)	52	28	148	11.6	79	28	176	(*)	60
950.....	27	582	13.8	68	27	461	-3.3	66	28	571	-2.4	58	28	593	7.8	52	28	599	(*)	58	28	578	10.6	70	28	606	(*)	56
900.....	27	1,035	11.5	58	27	886	-5.9	68	28	996	-5.9	56	28	1,013	6.0	50	28	1,026	-3.7	68	28	1,026	9.5	56	28	1,046	(*)	56
850.....	27	1,511	9.5	49	27	1,332	-7.5	65	28	1,446	-5.2	56	28	1,498	4.8	45	28	1,476	-5.1	60	28	1,499	7.4	44	28	1,506	3.3	60
800.....	27	2,012	7.8	42	27	1,803	-9.2	63	28	1,921	-6.6	56	28	1,991	3.9	43	28	1,951	-7.0	63	28	1,996	4.9	39	28	1,996	-8	56
750.....	27	2,542	5.5	37	27	2,303	-11.0	60	28	2,430	-8.3	56	28	2,521	1.9	43	28	2,460	-9.0	64	28	2,523	2.4	39	28	2,515	-2.7	59
700.....	27	3,103	2.7	33	27	2,828	-13.4	54	28	2,958	-10.0	54	28	3,068	-8.4	41	28	2,985	-10.9	62	28	3,074	-9	39	28	3,055	-6.1	59
650.....	27	3,699	-3	27	3,393	-15.9	53	27	3,536	-12.3	53	28	3,662	-4.4	41	28	3,559	-13.8	60	28	3,662	-4.4	39	28	3,635	-0.4	57	
600.....	27	4,335	-3.8	27	3,989	-18.8	52	25	4,136	-15.3	53	28	4,282	-8.4	39	28	4,155	-17.4	60	27	4,285	-8.6	39	27	4,243	-13.2	54	
550.....	27	5,017	-7.7	27	4,629	-22.6	49	24	4,805	-18.7	47	27	4,967	-12.1	39	28	4,808	-21.2	56	26	4,961	-12.5	37	27	4,901	-17.5	54	
500.....	27	5,753	-12.1	27	5,326	-26.9	44	24	5,504	-23.2	44	25	5,673	-16.5	39	28	5,500	-25.5	56	26	5,682	-17.5	37	27	5,607	-22.1	54	
450.....	27	6,500	-16.7	27	6,079	-31.9	42	24	6,277	-28.0	42	24	6,462	-21.5	39	28	6,296	-30.7	56	26	6,468	-23.3	37	27	6,380	-27.5	54	
400.....	27	7,429	-22.5	26	6,905	-37.2	39	24	7,104	-33.8	42	23	7,313	-27.1	39	26	7,079	-36.8	56	25	7,310	-29.8	37	27	7,211	-33.7	54	
350.....	27	8,396	-29.3	25	7,812	-43.0	39	24	8,027	-40.2	42	22	8,270	-33.5	39	26	7,990	-43.4	56	24	8,248	-36.9	37	26	8,128	-40.9	54	
300.....	27	9,478	-37.2	23	8,818	-48.3	39	24	9,063	-46.9	42	22	9,335	-40.9	39	26	9,010	-50.6	56	23	9,298	-44.9	37	26	9,159	-48.7	54	
250.....	24	10,722	-45.7	22	10,015	-52.5	39	23	10,244	-53.7	42	21	10,556	-48.8	39	25	10,185	-56.7	56	22	10,485	-53.3	37	23	10,352	-56.9	54	
200.....	24	12,179	-54.0	14	11,405	-52.2	39	21	11,659	-56.1	42	16	12,012	-53.6	39	22	11,551	-59.1	56	15	11,918	-59.3	37	17	11,738	-60.9	54	
175.....	23	13,027	-57.9	12	12,231	-50.9	39	15	12,493	-54.2	42	5	12,876	-54.3	39	13	12,336	-65.4	56	12	12,769	-68.2	37	8	12,552	-67.1	54	
150.....	19	13,991	-63.0	6	13,282	-51.8	39	12	13,468	-55.2	42	9	13,822	-54.0	39	7	13,712	-66.8	56	7	13,712	-66.8	37	8	13,552	-67.1	54	
125.....	13	15,102	-68.1																									

Standard pressure surface (mb.)	Oklahoma City, Okla. (974.5 mb.)				Omaha, Nebr. (984.1 mb.)				Phoenix, Ariz. (974.5 mb.)				Pittsburgh, Pa. (966.9 mb.)				Portland, Maine (1,001.3 mb.)				Rapid City, S. Dak. (905.4 mb.)				St. Paul, Minn. (990.8 mb.)						
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity			
Surface.....	28	391	2.0	52	28	308	-4.9	72	28	339	15.0	42	28	382	-5.6	77	28	20	-4.3	69	28	980	-7.3	74	27	225	-8.9	78			
1,000.....	28	180	(*)	48	28	181	(*)	74	28	118	(*)	28	118	(*)	77	28	30	(*)	69	28	193	(*)	74	27	153	(*)	80	27	153	(*)	80
950.....	28	595	2.3	48	28	586	-6.3	74	28	561	18.8	28	524	-6.3	76	28	438	-5.6	68	28	602	(*)	74	27	550	-10.9	82	27	550	-10.9	82
900.....	28	1,032	1.0	47	28	1,006	-7.8	72	28	1,018	15.8	29	941	-9.1	78	28	855	-8.0	72	28	1,027	(*)	74	27	964	-11.9	80	27	964	-11.9	80
850.....	28	1,489	-6	47	28	1,449	-8.9	68	28	1,499	12.1	31	1,381	-11.1	79	28	1,297	-10.1	76	28	1,472	-6.7	68	27	1,401	-11.9	69	27	1,401	-11.9	69
800.....	28	1,973	-1.5	46	28	1,918	-9.8	64	28	2,003	8.2	32	1,845	-12.4	66	28	1,763	-11.3	72	28	1,944	-8.5	68	27	1,864	-12.9	64	27	1,864	-12.9	64
750.....	28	2,491	-3.0	44	28	2,418	-10.8	55	28	2,540	4.3	33	2,342	-14.4	63	28	2,262	-12.8	70	28	2,444	-10.5	64	27	2,361	-14.1	60	27	2,361	-14.1	60
700.....	28	3,030	-5.2	43	28	2,943	-13.0	51	28	3,089	4.3	33	2,857	-16.2	58	28	2,780	-15.0	67	28	2,971	-13.1	60	27	2,877	-16.0	57	27	2,877	-16.0	57
650.....	28	3,611	-8.1	38	28	3,508	-15.5	49	28	3,684	-3.3	38	3,418	-18.1	62	28	3,341	-18.3	69	27	3,537	-16.1	58	27	3,439	-18.6	51	27	3,439	-18.6	51
600.....	28	4,225	-12.0	38	28	4,105	-19.0	49	28	4,307	-7.8	38	4,007	-21.1	62	28	3,930	-21.4	69	27	4,131	-18.9	55	27	4,026	-21.8	54	27	4,026	-21.8	54
550.....	28	4,889	-16.4	38	28	4,750	-22.8	49	28	4,981	-12.7	38	4,647	-24.7	62	28	4,567	-25.0	69	27	4,777	-22.3	37	27	4,663	-25.8	54	27	4,663	-25.8	54
500.....	26	5,601	-20.8	38	28	5,442	-27.0	49	28	5,698	-17.9	38	5,332	-28.4	62	28	5,254	-29.0	69	27	5,477	-25.3	37	27	5,346	-30.2	54	27	5,346	-30.2	54
450.....	26	6,376	-26.4	38	28	6,198	-31.8	49	28	6,485	-23.9	38	6,087	-33.1	62	28	6,006	-34.2	69	26	6,238	-30.7	37	27	6,096	-35.0	54	27	6,096	-35.0	54
400.....	22	7,214	-32.4	38	28	7,019	-37.0	49	28	7,326	-30.1	38	6,899	-38.6	62	28	6,815	-39.3	69	26	7,059	-36.5	37	27	6,908	-39.5	54	27	6,908	-39.5	54
350.....	18	8,129	-39.2	28	7,930	-43.2	38	28	8,264	-36.9	38	7,804	-44.2	62	28	7,717	-44.8	69	26	7,972	-42.9	37	27	7,810	-45.3	54	27	7,810	-45.3	54	
300.....	17	9,174	-46.7	28	8,954	-49.4	38	25	9,314	-44.6	38	8,832	-49.3	62	28	8,735	-50.2	69	26	9,001	-48.1	37	27	8,824	-51.7	54	27	8,824	-51.7	54	
250.....	13	10,343	-53.2	27	10,140	-54.9	38	21	10,524	-52.2	38	10,013	-53.4	62	27	10,013	-53.4	69	26	10,213	-50.8	37	27	10,001	-53.7	54	27	10,001	-53.7	54	
200.....	8	11,780	-55.7	18	11,520	-55.5	38	10	11,947	-57.6	38	11,442	-55.2	62	24	11,351	-53.9	69	22	11,551	-59.1	37	23	11,338	-60.9	54	23	11,338	-60.9	54	
175.....	5	12,669	-56.3	15	12,360	-53.8	38	6	12,813	-56.5	38	12,305	-54.0	62	17	12,180	-54.7	69	13	12,336	-63.4	37	14	12,111	-60.9	54	14	12,111	-60.9	54	
150.....	5	13,822	-63.0	9	13,332	-52.7	38	6	14,464	-55.9	38	13,310	-63.6	62	13	13,196	-55.6	69	6	14,410	-66.8	37	7	14,150	-67.0	54	7	14,150	-67.0	54	
125.....																															

TABLE 1.—Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during February 1947—Continued

Standard pressure surface (mb.)	Tampa, Fla. (1,017.0 mb.)				Tatoosh Island, Wash. (1,013.4 mb.)				Toledo, Ohio (990.6 mb.)				Washington, D. C. (1,010.3 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	28	9	11.8	79	28	31	7.2	84	28	191	-6.1	80	28	25	-0.9	56
1,000	28	149	12.4	73	28	140	6.6	78	28	118	(*)	...	28	107	-1.3	55
950	28	582	10.9	66	28	564	5.9	69	28	516	-7.4	80	28	516	-5.8	56
900	28	1,028	8.8	58	28	1,003	4.4	59	28	937	-9.7	81	28	939	-6.6	62
850	28	1,500	7.3	52	28	1,467	2.7	53	28	1,376	-11.6	80	28	1,383	-9.5	64
800	28	1,968	5.9	41	28	1,955	4.4	55	28	1,840	-12.4	72	28	1,853	-9.5	61
750	28	2,527	3.4	41	28	2,474	-2.2	54	28	2,337	-13.7	68	28	2,354	-11.0	58
700	28	3,080	4.4	42	28	3,016	-5.1	54	28	2,854	-15.8	66	28	2,878	-13.5	58
650	28	3,671	-2.6	40	28	3,597	-8.5	54	28	3,415	-18.4	64	28	3,443	-16.0	56
600	26	4,301	-6.0	...	27	4,216	-12.0	53	28	4,003	-21.5	...	28	4,039	-19.4	56
550	26	4,970	-9.8	...	26	4,888	-15.9	56	28	4,640	-25.3	...	28	4,681	-23.1	...
500	26	5,706	-14.2	...	25	5,595	-21.0	...	28	5,325	-29.5	...	28	5,373	-27.6	...
450	25	6,506	-19.2	...	23	6,382	-26.1	...	28	6,082	-34.3	...	28	6,129	-32.4	...
400	25	7,367	-24.9	...	21	7,219	-32.1	...	28	6,885	-39.5	...	28	6,946	-37.4	...
350	25	8,322	-32.0	...	20	8,143	-39.1	...	28	7,788	-45.4	...	28	7,856	-43.1	...
300	25	9,393	-39.5	...	16	9,184	-46.7	...	28	8,801	-50.8	...	28	8,881	-48.6	...
250	25	10,617	-47.5	...	12	10,371	-54.7	...	28	9,977	-54.2	...	27	10,059	-52.9	...
200	23	12,077	-54.3	...	5	11,777	-61.3	...	25	11,405	-55.1	...	25	11,468	-54.0	...
175	21	12,919	-57.9	...	...	...	...	...	22	12,240	-53.6	...	23	12,320	-53.2	...
150	18	13,892	-61.6	...	...	...	...	...	16	13,196	-62.8	...	21	13,307	-53.5	...
125	10	14,980	-66.7	...	...	...	...	...	7	14,325	-65.8	...	18	14,467	-54.8	...
100	...	...	...	...	...	...	...	...	...	...	...	...	11	15,907	-56.8	...

(\*) Temperature and relative humidity data for this level are not available or are available only for certain days. See note entitled "Change in Summarization of Radiosonde Data," p. 6, in the January 1946 issue of the MONTHLY WEATHER REVIEW.

NOTE.—All observations scheduled between 0300 and 0500, G. C. T. except at Ciudad Victoria, Mazatlan, and Merida, where they are taken near 0200, G. C. T. "Number of observations" refers to those of dynamic height only. (In a few cases temperature or humidity data may be missing for 1 or more standard pressure surfaces of some observations.) Relative humidity data are not published for standard pressure surfaces having a corresponding mean temperature below  $-20^{\circ}\text{C}$ .

All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the values occurring below the operating range of the humidity element. For explanation of the adjustment see article entitled "Curve Method for Obtaining Monthly Means of Relative Humidity," p. 241, MONTHLY WEATHER REVIEW, December 1944.

None of the means included in these tables are based on less than 15 observations at the surface or 5 observations at a standard pressure level.

## LATE REPORT FOR MAZATLAN, MEXICO

TABLE 1.—Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during January 1947

## STATION AND MEAN SURFACE PRESSURE

Standard pressure surface (mb.)	Mazatlan, Mexico (1,011.4 mb.)				Mazatlan, Mexico (1,011.4 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	14	20.3	76	28	4,357	-2.9	38
1,000	31	113	19.7	74	27	5,045	-6.8	42
950	31	358	18.9	61	500	5,780	-11.2	44
900	31	1,018	17.0	54	450	6,586	-16.1	47
850	31	1,503	14.1	47	400	7,459	-22.1	...
800	31	2,012	11.1	41	350	8,455	-29.4	...
750	31	2,552	8.0	43	300	9,496	-38.2	...
700	31	3,114	4.7	39	250	10,714	-47.3	...
650	29	3,719	1.0	39	200	12,207	-56.7	...



TABLE 2.—Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during February 1947  
Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Velocities in meters per second

Altitude (meters) m. s. l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (868 m.)			Browns- ville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (150 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,108 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity			
Surface.....	26	16	1.9	28	274	2.7	27	288	6.5	27	267	2.8	27	302	3.7	26	202	1.1	25	82	2.4	23	261	6.0	21	297	1.1	27	282	4.6	27	263	4.1	26	6	2.0	28	264	1.1
500.....	26	347	1.5	28	274	2.7	27	291	6.9	27	267	2.8	27	302	3.7	26	202	1.1	25	82	2.4	23	266	7.1	21	286	4.1	27	280	5.8	27	261	5.3	26	288	2.0	28	262	3.1
1,000.....	24	316	2.9	28	274	2.7	27	291	6.9	27	267	2.8	27	302	3.7	26	202	1.9	20	312	2.7	14	270	7.2	16	296	10.0	27	284	10.3	17	278	8.8	26	339	2.6	28	262	4.7
1,500.....	23	307	5.5	28	283	2.8	23	203	13.0	26	287	8.2	26	300	9.8	25	292	3.0	16	294	4.0	10	303	5.0	11	301	12.2	26	289	13.7	14	278	11.5	26	302	4.1	28	267	7.6
2,000.....	21	292	9.0	28	282	5.1	23	292	17.7	26	296	9.8	24	302	12.1	25	304	6.8	14	303	5.0	10	303	5.0	10	294	15.0	23	294	16.7	11	280	12.2	22	291	6.7	28	276	7.7
2,500.....	20	290	10.5	27	288	7.2	21	286	18.8	23	296	11.2	12	304	13.0	22	292	6.7	16	292	6.5	10	303	5.0	10	294	15.0	23	294	16.7	11	280	12.2	22	291	6.7	28	276	7.7
3,000.....	20	290	10.5	27	288	7.2	21	286	18.8	23	296	11.2	12	304	13.0	22	292	6.7	16	292	6.5	10	303	5.0	10	294	15.0	23	294	16.7	11	280	12.2	22	291	6.7	28	276	7.7
4,000.....	18	290	12.5	26	299	9.7	17	283	23.6	20	314	12.2	11	309	16.7	21	290	9.2	13	282	7.7	10	303	5.0	10	294	15.0	23	294	16.7	11	280	12.2	22	291	6.7	28	276	7.7
5,000.....	18	292	14.7	23	292	12.6	17	286	21.0	15	311	16.6	10	303	16.2	17	305	13.7	10	280	11.7	10	303	5.0	10	294	15.0	23	294	16.7	11	280	12.2	22	291	6.7	28	276	7.7
6,000.....	17	288	17.1	23	291	16.7	10	285	24.4	12	300	17.1				16	307	15.6	10	274	17.3	10	303	5.0	10	294	15.0	23	294	16.7	11	280	12.2	22	291	6.7	28	276	7.7
8,000.....	10	303	16.8	16	291	18.6										16	307	15.6	10	274	17.3	10	303	5.0	10	294	15.0	23	294	16.7	11	280	12.2	22	291	6.7	28	276	7.7
10,000.....	10	303	16.8	16	291	18.6										16	307	15.6	10	274	17.3	10	303	5.0	10	294	15.0	23	294	16.7	11	280	12.2	22	291	6.7	28	276	7.7

Altitude (meters) m. s. l.	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jackson- ville, Fla. (16 m.)			Joliet, Ill. (178 m.)			Las Vegas, Nev. (575 m.)			Little Rock, Ark. (88 m.)			Medford, Oreg. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (194 m.)			New York, N. Y. (15 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface.....	27	162	0.2	28	312	3.4	26	283	4.0	25	305	1.7	26	278	2.7	27	280	5.2	28	133	0.9	27	295	2.7	27	127	0.3	27	192	0.3	27	321	2.5	28	294	3.9	27	282	5.7
500.....	27	162	0.2	28	312	3.4	26	283	4.0	25	305	1.7	26	278	2.7	27	280	5.2	28	133	0.9	27	295	2.7	27	127	0.3	27	192	0.3	27	321	2.5	28	294	3.9	27	282	5.7
1,000.....	27	162	0.2	28	312	3.4	26	283	4.0	25	305	1.7	26	278	2.7	27	280	5.2	28	133	0.9	27	295	2.7	27	127	0.3	27	192	0.3	27	321	2.5	28	294	3.9	27	282	5.7
1,500.....	27	152	1.1	28	311	3.5	26	275	10.0	24	279	8.6	26	283	8.5	15	294	9.4	28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3
2,000.....	27	152	1.1	28	311	3.5	26	275	10.0	24	279	8.6	26	283	8.5	15	294	9.4	28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3
2,500.....	27	152	1.1	28	311	3.5	26	275	10.0	24	279	8.6	26	283	8.5	15	294	9.4	28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3
3,000.....	26	278	2.7	28	264	5.8	22	288	19.0	16	303	10.6	16	290	18.6				28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3
4,000.....	25	296	5.4	25	292	8.1	18	278	21.8	12	302	12.0	13	285	25.0				28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3
5,000.....	19	305	7.4	19	292	11.8	10	278	20.4									28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3	
6,000.....	18	310	9.8	14	293	14.8												28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3	
8,000.....	15	310	14.3															28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3	
10,000.....	13	314	16.4															28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3	
12,000.....	10	300	21.9															28	110	8.8	26	289	5.3	27	150	1.9	27	302	3.3	27	312	4.3	28	285	5.1	25	288	9.3	

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (396 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Paul, Minn. (225 m.)			San An- tonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (116 m.)			Spokane, Wash. (603 m.)			Washing- ton, D. C. (24 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface.....	26	225	3.1	27	325	3.1	27	321	3.6	28	222	0.8	27	329	6.0	27	288	4.8	27	301	5.5	26	5	0.6	28	269	3.1	21	299	4.3	26	74	1.1	28	234	0.3	27	277	4.8
500.....	26	185	1.1	27	331	3.0	27	313	4.0	28	222	1.0				27	291	7.6	27	307	6.6	26	28	0.7	28	268	2.4	21	305	5.9	26	162	2.3	28	211	1.8	27	277	8.1
1,000.....	23	156	8.8	27	332	3.2	24	298	6.4	28	216	7.7	27	328	6.2	25	292	8.3	24	314	6.9	26	314	1.2	28	274	1.6	17	309	4.9	23	174	3.2	28	211	1.8	27	281	9.4
1,500.....	20	211	1.0	26	315	5.3	15	281	8.4	28	225	9.7	27	324	8.4	20	295	10.6	19	310	7.4	24	308	2.5	26	297	1.2	14	315	5.9	20	203	2.6	27	236	2.9	25	285	11.7
2,000.....	19	228	1.3	25	302	8.6	14	287	11.4	28	263	1.0	24	321	11.1	18	298	13.0	19	310	9.3	22	281	6.2	24	314	1.9	11	304	7.6	17	213	2.8	24	265	3.6	23	289	13.9
2,500.....	17	251	2.2	24	291	9.3	14	294	13.8	27	270	2.5	21	314	12.5	17	297	14.5	17	309	9.3	22	280	7.8	24	311	2.2	10	298	5.7	12	247	2.6	23	285	4.3	21	288	15.6
3,000.....	15	248	3.2	24	290	12.0	14	293	16.4	27	283	2.9	20	314	13.6	13	292	16.3	15	313	10.4	22	285	8.7	23	304	3.8												
4,000.....	13	270	5.0	21	288	16.2	12	300	20.3	22	292	7.0	17	300	16.2				11	298	11.5	17	288	17.5	22	281	5.0												
5,000.....				17	290	19.9	10																																

## RIVER STAGES AND FLOODS FOR FEBRUARY 1947

C. R. JORDAN

Precipitation during February was below normal over most of the country. The exceptions were Maine, most of Florida, the extreme northern Lake Region, southern Montana, eastern Wyoming, eastern Colorado, and extreme western Washington. Less than one-fourth of the usual amounts fell over a broad strip, extending from the southern Great Lakes southwestward through the Ohio and middle Mississippi Valleys and including most of Texas and the southern portions of New Mexico and Arizona.

Some flooding was carried over from rainfall that occurred in January. Otherwise, there was no important overflow. Stream flow was generally below normal except in New England and the northern Great Plains where above-normal temperatures caused an early melting of snow.

## FLOOD STAGE REPORT FOR FEBRUARY 1947

[All dates in February unless otherwise specified]

River and station	Flood stage	Above flood stages— dates		Crest <sup>1</sup>	
		From—	To—	Stage	Date
ST. LAWRENCE DRAINAGE					
Lake Erie					
St. Mary's: Decatur, Ind.....	Feet 13	Jan. 31	2	Feet 16.0	Jan. 31
ATLANTIC SLOPE DRAINAGE					
Roanoke: Williamston, N. C.....	10	Jan. 18	3	11.5	Jan. 28
Ocmulgee: Abbeville, Ga.....	11	Jan. 26	1	13.4	Jan. 28
Oconee: Mount Vernon, Ga.....	16	Jan. 27	1	17.3	Jan. 29
Altamaha:					
Charlotte, Ga.....	12	Jan. 26	7	16.9	2
Piney Bluff, Ga.....	17	Jan. 30	4	20.0	2
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.....	15	Jan. 16	4	20.4	Jan. 26
Alabama: Millers Ferry, Ala.....	40	Jan. 19	4	51.5	Jan. 26
Black Warrior: Lock No. 7, Eutaw, Ala.....	35	Jan. 16	1	53.3	Jan. 23-24
Tombigbee:					
Gainesville, Ala.....	36	Jan. 7	2	45.4	Jan. 27
Demopolis, Ala.....	39	Jan. 4	7	61.5	Jan. 26
Lock No. 3, Ala.....	33	Jan. 2	10	59.8	Jan. 27
Lock No. 2, Ala.....	46	Jan. 5	8	61.2	Jan. 28
Lock No. 1, Ala.....	31	Jan. 5	11	42.1	Jan. 30-31

See footnotes at end of table.

## FLOOD STAGE REPORT FOR FEBRUARY 1947—Continued

River and station	Flood stage	Above flood stages— dates		Crest <sup>1</sup>	
		From—	To—	Stage	Date
EAST GULF OF MEXICO DRAINAGE—CON.					
Pascagoula: Merrill, Miss.....	Feet 22	Jan. 21	1	Feet 25.4	Jan. 25
Pearl:					
Jackson, Miss.....	18	Jan. 4	7	30.6	Jan. 20, 23, 27
Monticello, Miss.....	15	Jan. 15	8	25.0	Jan. 21
Columbia, Miss.....	17	Jan. 16	7	24.3	Jan. 22
Pearl River, La.....	12	Jan. 6	15	16.4	Jan. 26
MISSISSIPPI SYSTEM					
Ohio Basin					
Scioto:					
LaRue, Ohio.....	11	Jan. 31	1	12.6	Jan. 31
Prospect, Ohio.....	10	1	1	10.4	1
Circleville, Ohio.....	14	Jan. 31	2	18.1	1
Chillicothe, Ohio.....	16	1	2	18.1	2
Piketon, Ohio.....	15	Jan. 31	3	19.5	1
West Fork:					
Anderson, Ind.....	10	Jan. 31	1	10.1	Jan. 31
Elliston, Ind.....	18	Jan. 31	4	21.25	4
Edwardsport, Ind.....	12	Jan. 31	7	18.5	4
East Fork: Seymour, Ind.....	14	Jan. 31	2	15.2	Jan. 31
White:					
Petersburg, Ind.....	16	2	7	18.1	6
Hazleton, Ind.....	16	3	8	18.1	7
Wabash:					
Wabash, Ind.....	12	Jan. 30	1	14.9	Jan. 31
Lafayette, Ind.....	11	Jan. 31	3	15.6	1
Covington, Ind.....	16	1	4	18.0	3
Terre Haute, Ind.....	14	1	4	14.2	2-3
French Broad: Asheville, N. C.....	6	20	22	8.0	20
Tennessee: Kentucky Dam, Ky. (lower gage).....	27	Jan. 17	9	41.0	Jan. 26-27
Ohio: Shawneetown, Ill.....	33	5	7	33.2	6
Lower Mississippi Basin					
Tallahatchie: Swan Lake, Miss.....	26	Jan. 7	9	28.3	Jan. 26
Yazoo: Yazoo City, Miss.....	20	Jan. 25	11	29.4	5
WEST GULF OF MEXICO DRAINAGE					
Sabine: Bon Wier, Tex.....	17	Jan. 3	1	21.4	Jan. 21-22
Neches: Evadale, Tex.....	16	Jan. 13	4	17.9	Jan. 25
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Santiam: Jefferson, Oreg.....	13	3	3	13.0	3
South Yamhill:					
Willamina, Oreg.....	8	2	2	9.8	2
Whiteson, Oreg.....	38	3	3	39.2	3

<sup>1</sup> Provisional.



## CLIMATOLOGICAL DATA FOR FEBRUARY 1947

## CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS

[For description of tables and charts, see Review, January 1943, p. 15]

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total precipitation; and other data as indicated by the several headings.

The mean temperature for each section, the highest and

lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

Section	Temperature								Precipitation					
	Section average	Departure from the normal	Monthly extremes						Section average	Departure from the normal	Greatest monthly		Least monthly	
			Station	Highest	Date	Station	Lowest	Date			Station	Amount	Station	Amount
Alabama.....	42.8	-6.1	Greensboro.....	80	16	Cordova.....	9	10	1.98	-3.27	Fairhope.....	3.49	Columbia.....	0.88
Arizona.....	49.4	+3.5	2 stations.....	90	14	Alpine.....	3	1	.28	-1.02	Pinal Ranch.....	1.61	8 stations.....	.00
Arkansas.....	37.2	-6.4	4 stations.....	80	16	Devils Knob.....	1	4	.78	-2.71	Monticello.....	3.85	3 stations.....	T
California.....	49.9	+2.1	Palm Springs.....	94	23	Boon.....	-2	1	2.01	-2.50	Squaw Creek.....	13.73	15 stations.....	.00
Colorado.....	28.6	+1.3	Eversoll Ranch.....	82	15	Taylor Park.....	-30	9	.83	-1.14	Crested Butte.....	4.26	4 stations.....	T
Florida.....	54.4	-6.1	2 stations.....	87	1	2 stations.....	18	11	3.56	+4.48	Jacksonville Beach.....	6.48	Compass Lake.....	1.04
Georgia.....	42.7	-5.9	Waycross.....	80	18	Blairsville.....	7	9	1.00	-3.19	Waycross.....	3.04	Camp Stewart.....	.53
Idaho.....	32.4	+4.2	4 stations.....	67	12	Island Park Dam.....	-30	9	1.04	-1.70	Roland.....	5.51	Grandview.....	.00
Illinois.....	24.7	-5.2	Du Quoin.....	67	14	Rockford Apt.....	-15	2	.19	-1.72	Chicago Heights.....	.58	Casey.....	.00
Indiana.....	24.2	-6.4	Scottsburg.....	64	14	La Porte.....	-7	2	.34	-2.07	La Porte.....	2.51	Huntingburg.....	T
Iowa.....	18.3	-4.5	Clarinda.....	67	15	Decorah.....	-22	2	.31	-1.79	Storm Lake.....	.81	Mount Pleasant.....	.07
Kansas.....	31.4	-1.9	3 stations.....	78	15	Atwood.....	-9	1	.32	-1.66	McPherson.....	1.15	5 stations.....	T
Kentucky.....	28.9	-8.2	Pikeville.....	66	14	Hopkinsville.....	-3	8	.54	-2.86	Benham.....	2.17	Beaver Dam.....	.05
Louisiana.....	46.5	-7.3	2 stations.....	81	16	Arcadia.....	10	8	2.07	-2.47	Buras.....	6.13	Donaldsonville.....	.66
Maryland - Delaware.....	29.7	-3.6	Crisfield, Md.....	64	1	Oakland, Md.....	-7	5	1.61	-1.34	Oakland, Md.....	3.16	Chewsville, Md.....	.73
Michigan.....	18.7	-1.6	Kenton.....	51	13	Kenton.....	-23	11	1.41	-1.28	Painesdale.....	6.00	Bay City.....	.13
Minnesota.....	10.2	-2.4	Itasca State Park.....	56	13	Warroad.....	-33	5	.37	-1.38	Pigeon River Bridge.....	1.15	Hastings Dam.....	.02
Mississippi.....	42.0	-7.6	2 stations.....	80	16	2 stations.....	10	13	1.08	-3.23	Pearlington.....	3.32	Beaumont.....	.16
Missouri.....	28.6	-4.6	Cape Girardeau.....	73	14	Conception.....	-8	7	.25	-1.83	Ozark.....	1.12	4 stations.....	.00
Montana.....	22.7	+7.3	Yellowtail Dam.....	66	13	Ophir No. 1.....	-42	1	.72	-1.03	Heron.....	3.50	Scobey.....	T
Nebraska.....	24.4	-2.1	Beaver City.....	69	15	Chadron.....	-17	1	.23	-1.46	Homer.....	.77	Mullen.....	.00
Nevada.....	41.3	+7.1	Las Vegas Apt.....	80	24	Geyser.....	7	19	1.46	-1.61	Tuscarora.....	1.25	3 stations.....	.00
New England.....	23.3	+7.7	2 stations.....	56	1	Enosburg Falls, Vt.....	-25	20	2.46	-1.60	Greenville, Maine.....	6.37	Middletown, R. I.....	.56
New Jersey.....	28.2	-2.5	Tuckerton.....	57	1	Long Valley.....	-1	5	1.96	-1.51	Long Branch.....	3.30	Bonton.....	1.06
New Mexico.....	38.4	+1.1	Columbus.....	79	15	Gavilan.....	-18	1	.25	-1.44	Bateman's Ranch.....	1.82	25 stations.....	.00
New York.....	20.6	-1.9	Ossining.....	53	4	Stillwater Reservoir.....	-29	20	1.63	-1.02	Bennetts Bridge.....	5.80	Avon.....	.26
North Carolina.....	36.2	-6.4	3 stations.....	75	15	Mount Mitchell.....	-16	8	1.30	-2.70	Tapoco.....	3.59	Willard.....	.24
North Dakota.....	8.8	-1.1	Medora.....	63	12	2 stations.....	-36	1	.40	-1.06	Kenmare.....	1.42	Williston.....	.03
Ohio.....	23.1	-6.3	Ironton.....	62	14	Mansfield.....	-7	8	.62	-1.96	Chardon.....	2.15	Dayton Apt.....	.14
Oklahoma.....	37.7	-3.5	Goodwell.....	86	15	Hooker.....	0	8	.19	-1.27	Idabel.....	1.07	4 stations.....	.00
Oregon.....	39.7	+4.3	Brookings.....	80	24	Olive Lake.....	-5	8	1.75	-1.41	Valsetz.....	10.57	Hart Mountain.....	.14
Pennsylvania.....	23.2	-5.1	2 stations.....	58	15	2 stations.....	-13	5	1.39	-1.39	Kregar.....	6.01	Millersburg.....	.34
South Carolina.....	41.2	-6.2	Newberry.....	78	18	Caenars Head.....	0	9	.88	-3.27	Longcreek.....	3.04	Bethers (2).....	.08
South Dakota.....	17.4	-1.9	Spearfish.....	65	12	3 stations.....	-28	11	.29	-1.27	Dumont.....	1.58	McIntosh.....	.00
Tennessee.....	32.6	-8.5	Coldwater.....	74	16	Greeneville.....	-6	24	1.60	-1.83	Gatlinburg.....	4.26	Dover.....	.30
Texas.....	45.5	-5.8	2 stations.....	87	17	Stratford.....	6	1	.58	-1.20	Longview.....	3.27	13 stations.....	.00
Utah.....	34.9	+4.9	Zion National Park.....	73	15	Moon Lake.....	-6	20	.82	-1.46	Alta.....	2.88	3 stations.....	T
Virginia.....	37.2	-6.2	Clarksville.....	70	18	Big Meadows.....	-11	5	1.59	-1.46	Mountain Lake.....	3.81	Lynchburg.....	.64
Washington.....	38.0	+3.6	Quincy No. 3.....	73	23	Stockhill Ranch.....	-12	9	3.18	-1.48	2 stations.....	15.75	Lost Creek.....	T
West Virginia.....	25.5	-7.8	McNeill.....	67	14	Cannan Valley.....	-9	5	1.64	-1.46	Pickens No. 2.....	6.36	Dam 19 O. R.....	.44
Wisconsin.....	15.3	-1.9	Brule Island.....	53	13	Rest Lake.....	-29	4	.32	-1.86	Madeline Island.....	1.83	7 stations.....	T
Wyoming.....	23.0	+7.7	Fort Washakie.....	67	5	2 stations.....	-33	19	.65	-1.12	Foxpark.....	2.67	Morrissey.....	.00
Alaska.....	-7.3	-10.1	Sitka.....	49	4	Tanana.....	-71	25	2.44	+1.23	Ketchikan.....	18.14	2 stations.....	T
Hawaii.....	68.8	+2.2	Mahukona.....	89	8	Haleakala Ranger Station.....	32	28	2.76	-5.27	7 stations.....	11.66	7 stations.....	.00
Puerto Rico.....	74.3	+1.1	Guayama (3).....	93	7	Utuado.....	46	19	2.78	-1.13	Catano.....	6.42	Loscy Field (WBO).....	.50

<sup>1</sup> Other dates also.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR FEBRUARY 1947

District and station	Elevation of instruments			Pressure			Temperature of the air										Precipitation				Wind														
	Barometer above sea level	Thermometer above ground	Anemometer above ground	Station	Sea level	Departure from normal	Mean	Departure from normal	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Total degrees days	Mean temperature of the dew point	Mean relative humidity	Total	Departure from normal	Greatest in 24 hours	Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity		Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms		
																									Direction	Date									
NEW ENGLAND																																			
Eastport	78	67	85	999.0	1,002.0	-11.9	25.4	+0.9	47	5	32	3	20	10	26	1,102	20	80	2.69	-0.6	1.64	13	13.3	w.	42	ne.	22	8	6	14	6.5	23.7	11.2	1	
Greenville, Maine	1,070	6	41	992.4	1,003.1	-15.6	25.7	+2.1	44	5	26	-9	25	5	37	1,382	11	83	6.37	+3.6	3.18	12	7.0	n.	23	-----	11	4	9	15	37.5	28.0	1		
Portland, Maine	103	5	43	999.7	1,003.4	-12.2	24.6	+3.8	49	18	34	3	20	15	34	1,129	15	72	2.34	-1.7	.89	8	10.8	w.	41	se.	4	9	6	13	5.7	19.4	5.0	1	
Concord	289	4	45	993.9	1,004.7	-11.2	22.2	+1.9	48	14	32	-7	24	12	38	1,197	12	70	1.93	-1.0	1.06	5	10.0	n.w.	26	se.	4	5	7	16	6.8	12.4	6.5	1	
Burlington	403	6	41	990.9	1,006.4	-10.2	16.4	-3.0	43	15	26	-12	20	7	35	1,362	12	82	1.42	-2.4	.43	12	9.5	s.	33	s.	9	4	3	21	6.4	31.4	17.7	1	
Boston	124	33	62	1,000.3	1,005.1	-10.5	29.6	+3.8	53	14	38	8	20	21	38	992	16	60	1.44	-1.9	.95	14	17.7	n.w.	36	se.	4	9	10	9	5.4	9.0	T	0	
Nantucket	12	4	34	1,004.7	1,005.4	-9.5	30.8	+1	50	4	38	12	22	24	30	959	22	74	2.88	-5	1.40	11	18.1	n.w.	50	e.	21	6	10	12	6.1	17.6	T	0	
Block Island	26	11	46	1,005.1	1,006.1	-9.5	30.4	0	51	4	36	13	21	24	21	965	22	72	1.86	-2.0	.89	6	23.1	n.w.	56	ne.	21	7	13	8	5.5	13.3	.3	0	
Providence	159	46	60	1,000.0	1,006.1	-10.2	30.0	+1.9	56	18	38	10	20	22	27	982	16	63	1.83	-1.8	1.11	6	11.5	sw.	37	n.w.	11	7	13	8	5.3	12.3	.7	0	
Hartford	159	5	44	1,001.0	1,007.1	-9.5	26.5	-1.2	52	4	35	8	9	18	33	1,077	17	70	2.61	-1.2	1.14	5	11.3	n.w.	29	sw.	9	8	8	12	6.0	18.7	5.0	0	
New Haven	107	5	39	1,003.4	1,007.8	-9.1	27.7	-1.2	48	4	35	10	6	20	28	1,047	16	63	2.45	-1.3	1.48	5	10.2	w.	26	sw.	9	8	11	9	5.8	21.6	4.2	0	
MIDDLE ATLANTIC																																			
Albany	97	26	40	1,004.1	1,007.5	-9.8	29.6	-3.4	42	4	29	-2	6	14	31	1,224	14	73	1.89	-1.6	.46	9	12.6	w.	38	w.	4	3	8	17	7.5	13.3	8.6	0	
Binghamton	871	60	79	976.6	1,009.8	-7.5	22.3	-1.7	49	14	30	0	5	15	36	1,192	13	74	1.10	-1.2	.47	12	9.1	n.w.	24	w.	22	2	9	17	7.7	19.6	1.0	0	
New York	314	415	454	997.0	1,008.8	-8.5	28.9	-2.4	49	14	36	5	5	22	33	1,006	15	56	2.35	-1.5	1.06	5	21.0	n.w.	30	n.w.	10	8	13	7	5.3	20.6	3.4	0	
Philadelphia	374	30	49	997.3	1,011.5	-6.8	27.6	-2.6	53	14	37	3	5	20	31	1,049	16	62	1.77	-1.2	1.40	5	11.2	n.w.	34	n.w.	4	4	12	5	4.8	17.2	6.2	0	
Reading	323	47	57	1,006.4	1,010.5	-7.8	30.1	-3.8	53	4	37	6	5	23	39	978	19	72	2.42	-0.9	1.73	6	9.7	w.	25	ne.	20	12	11	5	6.0	18.5	2.3	0	
Scranton	805	72	104	979.7	1,009.8	-8.2	28.7	-3.6	47	14	36	4	6	21	33	1,018	-----	2.22	-1.2	1.46	6	15.5	w.	37	w.	9	10	11	5	5.1	19.1	3.2	0		
Atlantic City	82	37	172	1,008.5	1,010.5	-7.1	31.0	-2.6	50	18	38	7	5	24	36	948	-----	1.25	-1.8	.78	4	9.1	n.w.	22	n.w.	2	1	13	14	6.8	16.9	5.0	0		
Trenton	190	89	107	1,002.7	1,009.8	-7.8	21.7	-2.0	53	4	36	6	5	22	36	1,017	-----	1.61	-1.6	.85	5	19.4	w.	54	ne.	21	9	13	6	5.3	10.1	1.8	0		
Baltimore	123	100	215	1,007.5	1,012.2	-6.4	31.8	-3.6	56	14	40	6	5	24	36	928	17	38	1.69	-1.6	1.13	6	12.1	w.	24	n.w.	10	8	15	7	5.0	19.8	1.4	0	
Washington	112	56	100	1,008.3	1,012.9	-5.7	31.7	-3.6	57	14	40	6	5	23	41	893	16	52	1.65	-1.6	1.33	5	13.3	sw.	38	sw.	9	8	15	7	4.7	12.5	1.6	0	
Cape Henry	15	8	54	1,011.9	1,012.5	-5.5	36.2	-5.0	67	15	44	14	9	28	41	807	25	68	1.55	-1.7	.93	5	15.9	w.	46	n.w.	5	14	5	9	5.4	12.6	2.8	0	
Lynchburg	686	4	50	988.2	1,013.5	-5.1	31.0	-7.3	61	18	41	8	9	21	34	955	17	60	1.64	-2.5	.39	4	10.9	w.	29	sw.	6	13	9	9	4.8	5.8	T	0	
Norfolk	91	80	125	1,006.8	1,013.2	-5.4	37.0	-5.7	65	18	46	14	5	28	45	782	23	65	1.26	-2.0	.68	5	11.8	w.	32	n.w.	4	14	6	8	4.6	7.4	4.8	0	
Richmond	144	11	52	1,007.1	1,012.5	-6.5	34.2	-5.4	65	18	45	11	5	24	40	862	19	62	2.01	-1.2	1.64	4	9.8	sw.	27	n.w.	6	12	8	8	4.5	4.1	T	0	
SOUTH ATLANTIC																																			
Asheville	2,253	77	92	933.6	1,016.6	-3.0	40.9	-6.2	70	18	41	5	8	20	37	956	18	68	1.16	-2.0	.73	10	10.8	n.w.	25	n.w.	5	11	9	8	4.9	11.0	T	0	
Charlotte	779	63	86	986.1	1,015.2	-3.8	30.9	-7.6	72	18	49	13	9	27	36	763	20	58	1.50	-2.0	1.24	4	8.2	sw.	33	sw.	23	16	5	7	4.1	7.4	T	0	
Greensboro	886	6	56	982.1	1,014.9	-----	33.7	-5.7	69	18	46	10	9	22	44	876	18	60	1.19	-2.5	1.03	5	9.9	sw.	27	w.	2	13	7	8	4.4	1.2	T	0	
Hatteras	11	5	50	1,012.5	1,012.6	-5.4	41.6	-5.8	65	4	49	10	9	34	32	655	32	72	1.25	-2.8	.83	4	16.5	n.w.	40	sw.	6	10	8	10	5.2	T	.0	0	
Raleigh	776	5	69	1,000.3	1,014.6	-4.4	37.0	-6.2	72	18	48	13	9	26	38	785	20	62	1.05	-2.9	.78	4	8.4	n.w.	25	n.w.	22	15	9	4	3.8	T	.0	0	
Wilmington	32	73	107	1,012.2	1,014.9	-4.4	42.1	-5.8	68	18	52	18	9	32	36	643	29	64	1.67	-2.6	.33	4	11.5	n.w.	31	n.	23	15	8	5	3.7	T	.0	0	
Charleston	48	11	92	1,014.2	1,015.9	-3.4	46.1	-6.3	73	18	55	22	5	37	37	825	27	60	.36	-2.6	.33	3	11.2	w.	32	n.w.	4	14	8	6	4.1	T	.0	0	
Columbia, S. C.	347	70	91	1,002.7	1,015.9	-3.4	42.6	-5.6	73	18	54	19	9	31	34	630	23	56	.77	-3.0	.51	3	9.7	w.	33	sw.	6	18	6	4	3.2	.0	.0	0	
Greenville, S. C.	1,040	18	36	977.0	1,015.2	-----	37.8	-5.5	69	18	50	13	5	32	36	762	20	54	1.01	-3.2	.64	5	9.8	w.	37	sw.	6	18	6	4	3.6	.5	.0	0	
Augusta	182	62	77	1,009.8	1,016.3	-2.7	43.4	-6.5	74	18	55	21	5	36	40	609	24	52	1.06	-3.0	.75	4	8.8	n.w.	26	w.	23	16	8	4	3.6	.2	.0	0	
Savannah	65	73	152	1,014.6	1,016.9	-2.4	47.0	-5.4	77	18	58	22	5	36	37	506	30	62	.56	-2.6	.18	6	12.3	w.	39	n.w.	4	11	10	7	4.7	.0	.0	0	
Jacksonville	43	86	110	1,015.9	1,017.3	-2.3	50.5	-7.5	76	18	60	25	5	41	35	407	37	68	4.36	+1.4	1.95	9	9.8	n.w.	28	n.w.	4	13	6	9	4.7	.0	.0	0	
FLORIDA PENINSULA																																			
Key West	21	10	64	1,015.2	1,016.3	-2.3	61.5	-5.3	82	1	73	53	11	62	17	31	57	77	4.17	+2.8	2.87	8	10.4	n.	35	n.w.	5	13	8	7	4.8	.0	.0	1	
Miami	25	242	249	1,015.6	1,016.6	-2.7	62.2	-5.8	79	1	70	35	6	55	24	124	50	75	2.01	0	.94	7	15.0	n.	34	n.w.	5	14	8	6	4.3	.0	.0	1	
Tampa	35	6	43	1,016.3	1,017.6	-2.0	54.8	-7.1	76	4	64	32	11	46	32	292	44	76	4.02	+1.5	1.48	11	8.8	ne.	26	sw.	20	8	8	12	5.9	.0	.0	0	
EAST GULF																																			
Macon	370	79	87	1,003.4	1,016.9	-3.1	45.5	-6.7	73	18	55	20	10	32	39	602	23	51	1.09	-3.3	.90	4	8.2	n.w.	29	n.w.	4	12	10	6	4.0	T	.0	0	
Thomasville	274	49	58	1,008.5	1,018.6	-----	48.4	-6.2	72	15	48	22	5	37	32	466	-----	1.53	-2.9	.58	5	-----	-----	-----	-----	-----	11	9	8	-----	.0	.0	0	0	
Apalachicola	35	11	51	1,016.9	1,018.3	-1.0	50.2	-6.1	72	20	59	26	5	41	33	414	38	68	2.81	-1.1	1.65	8	9.2	n.w.	26	s.	20	9	10	9	5.1	.0	.0	0	
Pensacola	56	54	70	1,017.3	1,019.3	-0.3	49.0	-6.2	74	15	59	24	10	39	34	451	34	64	3.14	-1.2	2.11	5	8.3	n.	26	n.	4	12	7	9	4.8	.0	.0	0	
Birmingham	700	5	62	993.2	1,019.3	-0.7	38.8	-7.7	73	16	52	13	8	26	45	734	24	62	1.86	-3.2	1.46	4	9.2	n.w.	32	sw.	6	15	6	7	4.0	T	.0	0	
Mobile	57	86	161	1,017.																															

See footnotes at end of table.



## CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR FEBRUARY 1947—Continued

District and station	Elevation of instruments			Pressure		Temperature of the air										Precipitation		Wind				Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms										
	Barometer above sea level	Thermometer above ground	Anemometer above ground	Station	Sea level	Departure from normal	Mean	Departure from normal	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Total degree days	Mean temperature of the dew point	Mean relative humidity	Total	Departure from normal	Greatest in 24 hours					Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity						
																													Miles per hour	Direction					
OHIO VALLEY AND TENNESSEE—CON.																																			
Evansville <sup>1</sup>	431	11	40	1,003.1	1,019.3	-0.3	27.8	-7.1	63	14	37	6	8	19	40	1,044	18	70	1.27	-3.0	25	3	10.4	w.	34	w.	7	7	8	13	6.2	3.7	0		
Indianapolis <sup>1</sup>	823	5	54	985.4	1,016.6	-2.4	22.5	-7.8	56	14	30	-1	8	15	35	1,189	16	76	0.37	-1.2	12	8	13.8	w.	31	sw.	2	7	6	15	6.6	5.5	0		
Terre Haute <sup>1</sup>	575	68	149	993.9	1,019.3	0.0	24.3	-7.0	58	14	33	1	7	16	38	1,141	16	73	0.15	-2.5	06	6	12.1	w.	31	nw.	4	9	4	15	6.4	1.5	0		
Cincinnati <sup>1</sup>	627	11	51	993.6	1,017.3	-1.0	28.2	-4.6	60	14	36	4	8	21	40	1,030	17	74	0.33	-2.7	11	7	9.3	w.	26	nw.	4	2	9	17	7.1	4.3	0		
Columbus <sup>1</sup>	822	90	110	994.8	1,015.6	-3.4	24.0	-6.7	53	14	31	-1	8	17	43	1,147	16	79	0.51	-2.2	16	10	12.7	sw.	34	sw.	9	6	8	14	6.7	5.4	0		
Dayton <sup>1</sup>	1,003	6	55	978.7	1,016.6	-2.0	22.0	-7.9	53	14	30	-3	8	14	38	1,201	15	79	0.14	-2.6	12	2	15.2	w.	35	w.	5	9	14	6.8	6.0	0			
Elkins <sup>1</sup>	1,947	4	45	942.8	1,015.2	-4.4	21.4	-9.6	57	14	31	-3	5	12	45	1,221	15	82	1.93	-1.2	54	17	9.1	w.	30	nw.	2	3	4	21	7.7	26.8	9.5		
Parkersburg <sup>1</sup>	637	77	84	991.9	1,015.9	-3.7	26.4	-7.8	58	14	35	-2	8	18	46	1,081	18	72	1.04	-2.1	40	12	8.2	sw.	24	nw.	1	2	5	21	8.1	13.3	2.0		
Pittsburgh <sup>1</sup>	842	39	54	982.1	1,013.2	-5.1	22.1	-7.7	51	14	29	-2	5	15	45	1,204	14	74	1.32	-1.3	57	16	13.4	w.	31	sw.	9	2	6	20	7.7	23.1	4.3		
LOWER LAKES																																			
Buffalo <sup>1</sup>	768	34	90	981.0	1,010.2	-6.7	21.5	-2.7	46	3	27	2	5	16	39	1,216	16	81	1.18	-1.3	31	17	18.4	w.	47	w.	9	0	6	22	7.8	9.0	22.2	4.8	0
Canton	448	10	61	990.5	1,007.5	-9.1	15.6	-2	41	14	24	-10	12	7	33	1,384	12	85	1.38	-9	29	16	9.2	w.	32	w.	9	0	6	20	7.3	18.8	15.0	0	
Oswego	335	71	55	997.3	1,010.2	-6.1	22.4	-3	45	14	28	4	20	17	26	1,194	16	74	1.66	-1.0	37	20	13.0	w.	30	nw.	10	3	5	20	8.0	37.8	15.4	0	
Rochester <sup>1</sup>	523	5	69	989.8	1,009.8	-7.5	21.6	-1.3	45	14	28	2	5	15	35	1,219	16	82	1.05	-1.6	30	15	15.1	w.	45	sw.	9	2	5	21	8.3	17.0	6.0	0	
Syracuse <sup>1</sup>	596	5	57	986.5	1,009.5	-7.8	20.5	-2.4	46	14	28	-8	20	13	33	1,245	15	80	2.12	-6	50	19	13.4	sw.	41	sw.	9	4	3	21	8.1	26.6	11.1	0	
Erie <sup>1</sup>	714	57	81	985.1	1,012.5	-5.1	23.5	-3.4	50	14	29	5	8	18	37	1,163	17	85	2.77	-2	61	18	11.2	w.	31	w.	9	1	4	23	8.3	36.9	3.8	0	
Cleveland <sup>1</sup>	762	27	54	984.8	1,013.5	-4.5	22.6	-3.7	51	14	30	-2	8	16	40	1,186	16	82	0.75	-1.8	19	14	15.4	w.	43	w.	3	2	6	20	7.8	12.1	1	0	
Sandusky	629	5	67	989.8	1,013.9	-23.6	23.6	-3.8	54	14	30	-1	8	17	38	1,157	17	80	0.40	-1.8	12	10	12.4	sw.	30	sw.	9	2	13	17	7.2	5.2	1	0	
Toledo <sup>1</sup>	628	5	47	989.8	1,013.9	-4.7	22.0	-4.0	51	14	29	-1	8	14	30	1,204	13	70	0.43	-1.6	20	11	14.5	sw.	33	w.	9	2	9	17	7.6	5.1	1	0	
Fort Wayne <sup>1</sup>	857	5	33	993.1	1,015.6	-3.0	20.6	-6.0	50	14	28	-2	8	13	27	1,242	16	84	0.42	-1.9	13	12	10.9	w.	30	s.	3	4	12	12	6.6	4.5	1	0	
Detroit <sup>1</sup>	730	5	78	955.1	1,012.9	-5.1	22.5	-2.3	47	14	28	-1	8	16	31	1,192	16	77	0.38	-1.8	08	18	13.5	nw.	37	w.	9	3	6	19	7.6	4.1	1	0	
UPPER LAKES																																			
Alpena	600	5	89	987.1	1,010.5	-6.8	17.6	-0.6	45	13	27	-5	5	11	33	1,296	13	80	0.97	-0.7	21	18	11.4	nw.	31	nw.	22	2	5	21	8.0	13.0	11.4	0	
Escanaba	612	51	72	989.2	1,012.5	-5.5	17.4	-2.0	37	13	25	-8	4	10	39	1,330	12	80	0.73	-8	30	14	12.2	nw.	29	n.	14	5	7	16	7.3	7.0	3.3	0	
Grand Rapids <sup>1</sup>	707	70	244	986.5	1,013.9	-4.1	22.4	-1.3	47	14	28	0	4	17	30	1,193	15	80	0.81	-1.4	19	14	11.7	w.	40	sw.	3	0	11	17	7.6	23.1	4.6	0	
Lansing <sup>1</sup>	578	5	90	979.7	1,013.2	-4.4	20.6	-2.3	45	14	28	0	8	14	26	1,239	14	78	0.84	-1.1	18	14	10.1	w.	28	w.	9	2	7	19	7.8	10.8	5.0	0	
Marquette	734	44	73	984.1	1,012.5	-5.1	17.9	-1.6	49	13	24	-6	4	12	35	1,318	12	78	3.29	-1.4	13	21	10.3	nw.	22	w.	3	2	4	22	8.2	39.1	31.2	0	
Sault Sainte Marie <sup>1</sup>	614	11	52	986.8	1,010.2	-7.4	14.2	-2.8	41	13	22	-14	5	6	29	1,426	10	86	1.69	-3	51	17	12.2	nw.	33	nw.	22	3	3	22	8.2	17.0	17.0	0	
Chicago <sup>1</sup>	673	5	36	990.9	1,016.6	-2.0	20.4	-4.5	49	14	28	-2	2	13	40	1,244	14	78	0.38	-1.7	14	10	13.0	w.	33	sw.	3	4	10	14	6.7	5.0	1	0	
Green Bay	617	5	32	990.5	1,014.6	-3.4	16.6	-3.6	39	14	25	-10	14	9	38	1,355	10	77	0.51	-1.0	23	10	10.2	w.	26	sw.	3	5	6	17	6.8	6.8	1	0	
Milwaukee <sup>1</sup>	681	33	66	989.2	1,015.6	-2.4	17.6	-3.6	45	14	25	-8	4	10	40	1,331	11	74	0.29	-1.5	06	8	14.1	nw.	36	nw.	4	6	8	14	6.4	5.2	4.5	0	
Duluth <sup>1</sup>	1,133	5	47	973.2	1,016.9	-1.4	10.6	-8	47	13	20	-20	5	1	36	1,508	5	88	0.42	-6	13	8	15.8	nw.	47	nw.	4	10	8	10	5.4	4.2	3.0	0	
NORTH DAKOTA																																			
Fargo <sup>1</sup>	940	6	47	985.4	1,022.4	+2.1	9.5	+2.0	43	13	18	-17	1	0	39	1,558	5	82	0.32	-0.2	20	8	14.3	n.	48	nw.	3	4	3	21	7.6	2.9	.5	0	
Bismarck <sup>1</sup>	1,677	5	43	959.7	1,024.0	+3.3	11.6	+3.1	46	16	22	-22	1	1	40	1,495	6	82	0.29	-2	26	4	12.8	nw.	49	nw.	3	4	7	17	7.6	4.5	.6	0	
Devils Lake	1,478	11	44	966.1	1,023.4	+3.8	6.8	+1.7	38	13	16	-25	1	-3	42	1,632	0	77	0.44	-1	22	6	10.7	nw.	36	sw.	3	5	7	16	7.2	6.1	.8	0	
Grand Forks <sup>1</sup>	832	4	41	990.2	1,023.0	-6.5	10.2	-2.1	35	16	16	-20	1	-3	43	1,639	2	86	0.45	-18	12	2	6.20	nw.	30	nw.	2	6	20	7.6	5.7	4.6	0		
Williston	1,878	42	50	952.9	1,023.7	+4.1	10.2	+2.1	47	12	21	-27	1	-1	55	1,536	6	80	0.03	-4	03	1	8.2	nw.	30	nw.	7	4	4	20	7.6	1.2	1.3	0	
UPPER MISSISSIPPI																																			
Minneapolis-St. Paul <sup>1</sup>	916	43	74	983.1	1,018.3	-0.3	20.1	-3.3	46	13	23	-10	1	6	35	1,408	8	76	0.31	-1.4	06	7	12.3	nw.	37	nw.	3	6							

## CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR FEBRUARY 1947—Continued

District and station	Elevation of instruments			Pressure			Temperature of the air										Precipitation			Wind															
	Barometer above sea level	Thermometer above ground	Anemometer above ground	Station	Sea level	Departure from normal	Departure from normal					Mean					Total	Departure from normal	Greatest in 24 hours	Days with 0.01 inch or more	Average hourly velocity	Prevailing direction	Maximum velocity		Miles per hour	Direction	Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms	
							Mean	Maximum	Minimum	Mean	Maximum	Minimum	Mean	Maximum	Minimum	Direction							Date												
MIDDLE SLOPE																																			
Denver <sup>1</sup>	5,292	106	113	837.5	1,020.3	+3.0	32.5	-1.9	65	12	42	3	26	19	40	962	14	02	0.42	-0.5	33	10	7.2	s.	30	n.	19	7	6	15	6.1	13.0	7.0	0	
Pueblo <sup>1</sup>	4,690	5	36	857.4	1,020.7	+4.1	30.8	-1.3	78	15	45	2	27	16	60	957	18	08	0.79	+3.3	46	8	7.2	se.	30	nw.	5	7	9	12	6.1	10.3	3.4	0	
Concordia <sup>1</sup>	1,392	50	38	970.5	1,022.4	+2.4	28.4	-1.4	68	13	39	-2	7	18	38	1,026	20	71	0.16	-0.7	09	5	9.7	nw.	31	nw.	6	8	8	12	6.0	3.8	1.7	0	
Dodge City <sup>1</sup>	2,509	5	38	930.6	1,021.3	+2.0	31.8	-1.4	72	15	44	7	24	19	42	932	18	02	0.06	-0.7	06	1	16.3	nw.	45	nw.	6	10	9	9	8.1	8.8	3.3	0	
Wichita <sup>1</sup>	1,358	6	64	971.6	1,021.7	+2.7	31.8	-2.6	72	15	43	2	7	20	43	931	16	02	0.52	-0.7	34	3	15.6	nw.	44	n.	3	10	10	8	5.1	7.8	4.9	0	
Oklahoma City <sup>1</sup>	1,214	10	47	977.0	1,021.3	+2.3	37.8	-1.8	75	15	49	13	9	27	37	760	22	02	0.02	-1.1	03	1	9.7	n.	34	n.	7	14	7	7	4.6	4.0	0	0	
Tulsa <sup>1</sup>	674	10	60	996.6	1,021.7	-----	36.5	-2.6	75	15	48	11	9	25	43	795	21	58	0.40	-1.1	31	3	12.1	nw.	43	n.	3	14	7	7	4.4	2.0	0	1	
SOUTHERN SLOPE																																			
Abilene <sup>1</sup>	1,738	4	59	958.0	1,020.3	+2.0	42.6	-2.5	80	17	54	18	9	30	40	635	24	54	0.06	-1.0	06	1	13.7	n.	49	n.	7	11	6	11	5.5	5.2	0	1	
Amarillo <sup>1</sup>	3,676	5	42	890.7	1,019.7	+2.4	35.3	-0.8	73	15	49	11	9	22	44	830	20	58	0.07	-0.6	04	4	14.1	n.	43	n.	7	9	9	10	5.6	1.0	0	0	
Del Rio <sup>1</sup>	960	63	71	985.1	1,019.3	+2.0	50.8	-5.2	81	17	62	33	5	39	40	398	32	52	0.32	-0.2	32	1	8.1	se.	27	nw.	6	13	6	9	4.9	0	0	0	
Roswell <sup>1</sup>	3,566	75	85	894.3	1,018.5	+1.7	42.0	-0.5	74	17	57	20	2	27	44	646	20	44	T	-0.6	T	0	8.2	s.	32	nw.	3	12	6	10	5.0	T	0	0	
SOUTHERN PLATEAU																																			
El Paso <sup>1</sup>	3,778	29	85	886.9	1,015.6	-0.3	51.9	+4.2	49	7	70	29	2	36	41	428	22	34	T	-0.8	T	0	9.5	w.	38	w.	28	12	8	8	4.8	0	0	0	
Albuquerque <sup>1</sup>	5,314	5	45	837.5	1,015.2	-0.4	42.2	+1.7	65	17	56	30	2	28	35	637	19	40	0.14	-2.3	13	2	9.7	n.	39	nw.	28	13	7	8	4.6	T	0	0	0
Flagstaff <sup>1</sup>	6,907	36	51	790.0	1,018.6	-----	38.2	-7.4	65	15	53	12	1	23	44	751	20	55	0.18	-1.9	14	3	-----	n.	-----	-----	11	7	10	5.1	T	0	0	0	
Phoenix <sup>1</sup>	1,107	39	87	975.3	1,014.6	-1.7	60.1	+5.0	85	14	75	35	1	45	40	142	35	46	0.10	-7.1	10	2	5.9	e.	20	sw.	26	13	4	11	4.9	0	0	0	
Tucson <sup>1</sup>	2,555	5	39	926.2	1,014.6	-----	57.8	+5.6	83	16	73	32	1	43	43	205	35	30	0.02	-0.9	02	2	-----	se.	-----	-----	13	3	12	5.1	0	0	0	0	
Yuma <sup>1</sup>	142	9	54	1,009.5	1,014.6	-2.0	63.2	+4.6	87	15	78	42	19	48	36	71	32	34	T	-0.4	T	0	5.6	n.	20	n.	23	15	6	7	3.9	0	0	0	
MIDDLE PLATEAU																																			
Reno <sup>1</sup>	4,527	20	52	863.5	1,018.6	0.0	42.0	+6.1	68	23	59	19	1	25	46	645	28	02	0.51	-7.7	48	5	5.3	s.	31	nw.	27	10	9	9	5.2	T	0	0	0
Winnemucca <sup>1</sup>	4,339	5	56	869.3	1,018.6	-1.0	41.0	+7.5	64	23	54	20	25	28	40	675	28	61	0.42	-5.2	23	4	7.3	ne.	26	w.	2	4	11	13	6.6	T	0	0	0
Modena <sup>1</sup>	5,473	10	46	834.1	1,017.3	-0.3	38.5	+7.5	62	15	53	15	1	24	40	742	-----	0.03	-0.9	03	1	8.0	w.	26	sw.	27	10	13	5	4.9	T	0	0	0	
Salt Lake City <sup>1</sup>	4,227	32	58	867.6	1,019.6	0.0	38.4	+6.3	62	16	48	29	1	29	28	745	28	70	0.81	-4.4	43	4	7.1	se.	24	se.	17	6	11	11	6.1	6.5	2.7	0	0
Grand Junction <sup>1</sup>	4,602	60	68	861.5	1,020.7	+3.4	36.0	+3.1	58	16	47	7	1	24	33	815	25	07	0.11	-5.5	06	3	5.1	se.	29	n.	24	7	9	12	6.1	1.0	T	0	0
NORTHERN PLATEAU																																			
Baker <sup>1</sup>	3,471	38	54	898.1	1,021.0	+0.7	37.4	+5.8	57	23	46	17	27	26	26	807	28	74	0.36	-1.1	28	4	5.7	se.	25	sw.	2	7	5	16	6.8	1.1	0	0	0
Boise <sup>1</sup>	2,739	5	49	922.8	1,020.7	-0.3	38.0	+4.4	59	23	47	20	28	29	27	752	30	73	0.44	-1.0	27	3	8.8	se.	28	e.	12	4	9	15	7.0	T	0	0	0
Pocatello <sup>1</sup>	4,478	5	31	864.9	1,021.3	+1.0	34.8	+7.9	56	16	45	8	8	25	33	846	24	66	0.26	-0.9	09	4	9.6	sw.	33	w.	2	7	10	11	6.0	2.7	0	0	0
Spokane <sup>1</sup>	1,929	27	42	950.9	1,021.0	+1.7	36.1	+4.8	59	23	46	17	27	26	28	812	28	69	0.26	-1.5	09	8	6.5	se.	38	sw.	2	6	5	17	6.8	2	0	0	0
Walla Walla <sup>1</sup>	991	57	65	964.8	1,021.7	+2.1	41.8	+4.7	63	23	50	1	1	34	36	650	-----	0.54	-1.2	31	7	4.9	s.	26	se.	11	5	9	14	6.8	T	0	0	0	
Yakima <sup>1</sup>	1,076	58	67	981.0	1,021.0	+2.0	39.3	-----	69	23	51	8	1	27	38	719	28	68	0.35	-----	17	4	-----	w.	-----	-----	5	6	17	7.0	T	0	0	0	0
NORTH PACIFIC COAST																																			
North Head <sup>1</sup>	211	5	55	1,010.8	1,018.6	+1.3	46.4	+4.3	59	7	51	33	27	42	19	519	40	80	3.73	-3.7	1.15	12	13.4	e.	60	s.	1	6	4	18	7.3	0	0	0	0
Seattle <sup>1</sup>	125	90	321	1,014.9	1,019.6	+2.0	46.8	+4.0	61	9	53	33	3	41	20	514	37	75	4.08	+2.1	7.1	9	8.6	se.	40	s.	1	4	5	19	7.4	T	0	0	0
Tacoma <sup>1</sup>	194	172	201	1,012.5	1,019.6	+1.6	45.8	+5.2	61	9	51	30	4	40	21	541	-----	3.64	-1.0	1.74	9	7.8	n.	42	s.	1	7	8	13	6.7	0	0	0	0	
Tatoosh Island <sup>1</sup>	86	9	61	1,015.2	1,018.6	+2.7	45.4	+4.4	56	7	50	34	2	41	13	549	40	80	7.95	-1.5	1.65	13	18.2	e.	59	s.	11	5	4	19	7.4	T	0	0	0
Medford <sup>1</sup>	1,329	29	58	970.9	1,019.0	-0.4	45.2	+2.9	68	24	56	27	8	34	38	556	36	74	1.22	-0.8	85	7	-----	s.	-----	-----	7	-----	-----	-----	7.2	T	0	0	0
Portland, Oreg. <sup>1</sup>	154	68	106	1,013.9	1,019.6	+1.3	48.0	+5.9	62	22	54	32	3	41	26	473	36	72	3.12	-2.2	1.31	9	6.0	nw.	22	ne.	26	3	6	19	7.6	0	0	0	0
Roseburg <sup>1</sup>	510	45	76	1,000.3	1,019.3	+0.3	47.6	+4.2	63	13	56	32	27	40	28	489	42	79	2.79	-1.7	1.14	9	3.4	nw.	18	se.	11	0	11	17	7.9	0	0	0	0
MIDDLE PACIFIC COAST																																			
Eureka <sup>1</sup>	60	72	88	1,016.9	1,019.3	0.0	51.8	+2.1	67	13	55	40	28	45	21	410	44	80	1.33	-5.2	1.08	6	6.3	se.	28	se.	11	4	5	19	7.7	0	0	0	0
Red Bluff <sup>1</sup>	353	5	26	1,005.1	1,018.0	-----	52.3	+2.9	83	24	63	34	1	42	42	355	42	71	2.30	-1.6	1.37	7	6.5	nw.	37	se.	11	10	1	17	6.1	0	0	0	0
Sacramento <sup>1</sup>	66	92	115	1,016.3	1,018.6	0.0	50.9	+1.8	74	24	59	33	4	43	9	393	45	83	2.34	-7.1	86	7	5.3	s.	21	se.	9	5	9	14	6.7	0	0	2	0
San Francisco <sup>1</sup>	155	112	132	1,012.5	1,018.3	-0.3	53.6	+1.4	75	24	59	44	1	48	25	321	46	82	2.65	-1.2	1.91	6	6.5	w.	25	se.	11	7	6	15	6.7	0	0	0	0
SOUTH PACIFIC COAST																																			
Fresno <sup>1</sup>	327	5	34	1,016.4	1,019.0	-0.3	56.9	+3.3	77	25	62	31	1	42	35	353	45	70	0.63	-1.5	28	4	3.9	se.	18	nw.	16	5	6	17	7.4	0	0	1	0
Los Angeles <sup>1</sup>	338	223	250	1,005.1	1,017.3	-0.7	59.8	+4.3	82	4	70	44	22	50	36	155	44	60	0.60	-2.2	86	1	6.1	w.	22	s.	9	5	12	11	6.0	0	0	0	0
San Diego <sup>1</sup>	87	20	55	1,014.2	1,017.3	-0.7	58.5	+3.4	82	4	68	44	23	49	33	185	47	71	0.43	-1.6	31	4	5.6	w.	23	sw.	9	9	6	13	5.6	0	0	0	0
ALASKA																																			
Anchorage <sup>1</sup>	132	6	44	1,007.1	1,012.2	-----	18.4	-0.2	52	15	28	-38	3	8	38	1,305	13	78	0.12	-0.6	0.11	2	5.2	n.	42	ne.	15	6	6	16	6.5	1.3	8.0	0	0
Fairbanks <sup>1</sup>	455	4	63	999.0	1,017.3	-----	0.4	-1.6	44	16	12	-58	3	-11	38																				



## SEVERE LOCAL STORMS FOR FEBRUARY 1947

[The table hereunder contains such data as have been received concerning severe local storms that occurred during the month. A revised list will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
South Dakota	Feb. 1947 5-8			1		High winds, blowing snow and dust.	Frequent high, gusty northwesterly wind, accompanied by subzero temperatures, blowing snow and dust, and poor visibility, caused cancellation or delayed traffic. Schools closed; communication and power lines damaged, especially in the southern quarter of the State. 1 death attributed to the severe weather.
Lincoln and York, Nebr.	6	8-10 a. m.	150		\$2,500	Wind squalls.	Windows broken; minor damage to signs and fences.
Michigan	9-10					Snow and wind.	Blizzard conditions prevailed. Severe drifting isolated many communities; traffic hampered. Schools closed in many sections of the State several times during the month.
Mobile, Ala.	20	3:04-3:11 a. m.			2,500	Thundersquall.	Damage to roofs, trees, power lines, and miscellaneous property. Plate-glass windows in the control tower of Bates Field blown out.

<sup>1</sup> Miles instead of yards.

## LATE STORM REPORTS FOR JANUARY 1947

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Arkansas, north-central portion.	Jan. 1947 29	5:20-5:30 p. m.		0	\$167,880	Tornado.	This small tornado originated just north of Calico Rock where hail began at 5:20 p. m. The funnel cloud was observed near Wideman at 5:30 p. m. At 5:55 the tornado reached Salem, Ark. Persons in this area were fortunate since the severe thunderstorm preceding the tornado by a few minutes resulted in their being safely housed in the storm cellars that are more or less a part of every home in this section. There were no fatalities in Salem, although more than half of the residential section of the town was destroyed. Destruction within the path of the storm was extremely violent and complete. One of the curiosities of the storm was the digging of a furrow a foot deep and several hundred feet long just before it entered Salem. 32 houses, 1 church, 12 automobiles, and several trucks destroyed, \$142,400; 44 buildings and public utilities damaged, \$25,000; livestock killed, \$480; 12 persons injured.
Missouri	29			0		3 tornadoes.	
First. West Plains, Mo., vicinity of.	29	6 p. m.					The barograph trace dropped very sharply at 6 p. m., indicating that a low-pressure area passed this station.
Second. Koshkonong, Mo., 14 miles east, moving northeasterly.	29	7:15 p. m.					This tornado traveled in a northeasterly direction until it passed out of sight.
Third. Thayer to Van Buren, Mo., vicinities of.	29						This tornado was reported by the Weather Bureau observer at Alton, Mo., who is towerman for the Forest Service. A day or so before the tornado struck he had counted 40 trees on an acre of land for the Forest Service. After the tornado passed only 3 trees were left standing. The path of the tornado through this acre was very distinct and in most cases about a mile wide. The trees had been felled with the tops toward the center of the path of the tornado, and in the center of the path they were a tangled mass. Amount of damage from these tornadoes not given.

## SOLAR RADIATION AND SUNSPOT DATA FOR FEBRUARY 1947

[Solar Radiation Investigations Section, I. F. HAND in Charge]

Explanations of the tables and references to descriptions of instruments, stations, and methods of observation and to summaries of data, are given in the MONTHLY WEATHER REVIEW, vol. 72, page 43, January 1944. A list of pyrheliometric stations is given on page 45 of the same REVIEW.

## SOLAR RADIATION OBSERVATIONS

TABLE 1.—Solar radiation intensities during February 1947

[Gram calories per minute per square centimeter of normal surface]

Date	Sun's zenith distance									
	7:30 a.m. <sup>1</sup>	A.M.					P.M.			
	e.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7° e.
<b>MADISON, WIS.</b>										
Feb. 5.....	mb.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mb.
Feb. 10.....	0.7	0.94	1.04	1.15	1.31	1.48	1.31	1.15	1.04	0.7
Feb. 12.....	1.4	.90	1.02	1.16	1.33	1.54	1.33	1.16	1.02	1.4
Feb. 14.....	2.9	.36	.49	.69	1.02	1.32	1.02	.69	.49	2.9
Feb. 18.....	5.8	.40	.58	.71	.98	1.27	.98	.71	.58	5.8
Feb. 19.....	1.4	.83	1.01	1.16	1.35	1.60	1.35	1.16	1.01	1.4
Feb. 20.....	0.9	.95	1.08	.76	1.22	1.33	1.22	.76	1.08	0.9
Feb. 27.....	1.7	.86	1.02	1.14	1.31	1.58	1.31	1.14	1.02	1.7
Feb. 28.....	1.5	.87	1.02	1.11	1.24	1.42	1.24	1.11	1.02	1.5
Means.....		.76	.91	.98	1.22	1.44	1.22	.98	.91	
Departures.....		-.10	-.10	-.17	-.11	-.06	-.11	-.17	-.10	
<b>LINCOLN, NEBR.</b>										
Feb. 1.....	0.8	0.96	1.07	1.20	1.35	1.33	1.11	1.04	0.85	1.4
Feb. 3.....	5.6	1.03	1.14	1.27	1.40	1.57	1.24	1.13	1.04	2.3
Feb. 12.....	3.8	—	—	—	1.11	1.16	—	—	—	6.9
Feb. 14.....	6.9	.92	1.03	1.16	1.29	—	—	—	—	7.8
Feb. 15.....	4.4	.87	1.03	1.22	—	—	—	—	—	7.4
Feb. 18.....	3.8	.64	.74	.92	—	—	—	—	—	4.0
Feb. 20.....	2.7	.60	.79	1.00	1.22	—	—	—	—	2.6
Feb. 21.....	2.1	.85	.96	1.09	1.29	1.51	1.29	1.12	.99	4.0
Means.....		.84	.97	1.12	1.28	(1.51)	1.29	1.16	1.05	.92
Departures.....		-.06	-.04	-.03	-.07	.00	-.04	-.03	+.04	+.01
<b>TABLE MOUNTAIN, CALIF.</b>										
Feb. 5.....	—	1.14	1.23	1.34	1.47	—	—	—	—	—
Feb. 11.....	—	—	—	—	1.47	—	—	—	—	—
Feb. 14.....	—	—	—	—	1.53	—	—	—	—	—
Feb. 15.....	—	—	—	—	1.48	—	—	—	—	—
Feb. 16.....	—	—	—	—	1.51	—	—	—	—	—
Feb. 19.....	—	1.18	1.27	1.37	1.50	—	—	—	—	—
Feb. 21.....	—	—	—	—	1.45	—	—	—	—	—
Feb. 22.....	—	—	—	—	1.45	—	—	—	—	—
Feb. 23.....	—	—	—	—	1.49	—	—	—	—	—
Feb. 24.....	—	—	—	—	1.52	—	—	—	—	—
Means.....	—	(1.16)	(1.25)	(1.36)	1.49	—	—	—	—	—

See footnote at end of table.

TABLE 1.—Solar radiation intensities during February 1947

Date	Sun's zenith distance									
	7:30 a.m. <sup>1</sup>	A.M.					P.M.			
	e.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7° e.
<b>CLIMAX, COLO.</b>										
Feb. 2.....	mb.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mb.
Feb. 4.....	1.24	1.33	1.43	1.56	1.55	1.42	1.32	1.24	1.21	—
Feb. 5.....	1.27	1.38	1.48	1.59	1.56	1.42	1.31	1.23	1.23	—
Feb. 6.....	1.21	1.31	1.44	1.52	1.55	1.40	1.30	1.22	1.22	—
Feb. 7.....	1.20	1.28	1.44	1.60	1.58	1.40	1.30	1.22	1.22	—
Feb. 8.....	1.34	1.40	1.53	1.64	1.60	1.48	1.38	1.29	1.29	—
Feb. 9.....	—	—	1.50	1.63	—	—	—	—	—	—
Feb. 12.....	1.33	1.41	1.52	1.61	—	—	—	—	—	—
Feb. 14.....	1.24	1.34	1.45	1.58	1.52	1.40	1.28	1.20	1.20	—
Feb. 15.....	1.18	1.44	1.61	—	1.58	1.46	—	—	—	—
Means.....	1.26	1.33	1.47	1.59	1.56	1.43	1.32	1.23	1.23	—
<b>BLUE HILL, MASS.</b>										
Feb. 1.....	3.2	0.87	0.96	1.13	1.32	1.29	1.12	1.00	0.89	2.6
Feb. 2.....	2.3	.39	—	—	—	1.09	.97	.90	—	2.2
Feb. 3.....	1.7	1.07	1.17	1.28	—	1.21	—	—	—	1.0
Feb. 6.....	1.4	—	.62	.78	—	—	—	—	—	1.1
Feb. 7.....	5.8	—	—	1.04	—	—	—	—	—	4.6
Feb. 9.....	1.3	—	—	.80	1.02	.93	.41	.29	—	1.7
Feb. 10.....	2.3	—	—	—	—	—	—	.87	—	2.7
Feb. 11.....	2.6	.98	—	1.12	—	1.39	1.26	1.14	1.03	2.2
Feb. 12.....	1.7	1.10	1.20	1.30	1.44	1.45	1.27	1.13	1.05	1.3
Feb. 13.....	1.4	—	—	—	—	1.37	1.16	1.01	.88	2.0
Feb. 14.....	2.9	.46	.58	.83	—	—	—	—	—	3.0
Feb. 18.....	2.2	.81	.96	1.09	1.29	1.29	1.13	.98	.83	2.5
Feb. 19.....	1.5	1.06	1.16	1.28	1.44	1.46	1.29	1.17	1.07	1.7
Feb. 20.....	1.1	1.03	—	—	—	1.35	—	—	—	1.6
Feb. 23.....	2.0	.80	.93	1.09	1.27	1.35	.90	.78	.61	2.5
Feb. 24.....	1.6	.68	.81	1.00	1.22	1.16	.99	.78	.61	2.0
Feb. 28.....	2.6	.88	1.00	1.10	—	—	1.11	.99	.85	2.7
Means.....	.84	.94	1.07	1.26	1.30	1.15	.96	.84	—	—
Departures.....	-.07	-.08	-.03	-.03	+.01	+.01	-.04	-.06	—	—
<b>BOSTON, MASS.</b>										
Feb. 3.....	1.8	—	—	1.03	—	—	—	—	—	1.9
Feb. 11.....	1.9	—	—	—	—	1.26	—	—	0.67	2.6
Feb. 12.....	1.7	—	—	1.15	1.37	—	1.11	0.98	.83	1.9
Feb. 18.....	2.9	—	—	1.05	—	—	—	—	—	3.5
Feb. 24.....	2.1	—	—	—	—	1.06	—	—	—	2.0
Means.....	—	—	—	1.08	(1.37)	(1.16)	(1.11)	(0.98)	(0.75)	—
Departures.....	—	—	—	+.18	+.21	+.03	+.08	+.14	+.07	—
<b>RATIO, BOSTON/BLUE HILL ON COMPARABLE DATES</b>										
—	—	—	—	.89	(.95)	(.91)	(.87)	(.87)	(.72)	—

<sup>1</sup> 75th meridian time



TABLE 2.—Daily totals and weekly means of solar radiation (direct+diffuse) received on a horizontal surface

(Gram calories per square centimeter)

Date	Washington, D. C.	Madison, Wis.	Lincoln, Nebr.	East Lansing, Mich.	New York, N. Y.	Fresno, Calif.	Fairbanks, Alaska	Columbia, Mo.	Boston, Mass.	Nashville, Tenn.	Twin Falls, Idaho	La Jolla, Calif.	Riverside, Calif.	Blue Hill, Mass.	Newport, R. I.	Salt Lake City, Utah	Put-in-Bay, Ohio	State College, Pa.	Davis, Calif.	Tooele, Utah	New Orleans, La.	Toronto, Canada	Ithaca, N. Y.	Boulder, Colo.	Soda Springs, Calif.	East Wareham, Mass.
1947	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	
Jan. 29.....	267	27	20	17	180	240	18	69	50	173	197	324	380	100	118	216	11	176	253	298	247	62	63	94	279	.....
Jan. 30.....	111	53	225	31	101	315	20	40	13	191	133	330	355	49	50	249	55	91	136	305	299	29	79	328	167	71
Jan. 31.....	296	263	246	118	223	223	18	307	180	277	231	335	373	230	106	234	93	64	278	336	199	130	83	175	328	181
Feb. 1.....	295	204	327	100	248	296	19	353	219	264	160	308	346	288	273	283	106	273	231	252	387	205	250	327	337	278
Feb. 2.....	230	233	287	212	244	191	17	325	201	325	168	329	324	238	242	207	216	194	226	160	290	147	184	318	345	202
Feb. 3.....	286	156	146	163	195	239	32	290	239	292	252	304	328	294	301	308	214	233	318	347	327	143	228	82	348	294
Feb. 4.....	40	198	362	236	26	131	47	366	51	291	273	330	318	84	86	307	113	50	156	360	408	111	64	323	276	125
Means.....	218	162	230	125	174	234	24	246	139	259	202	323	346	183	177	258	115	154	238	297	308	118	136	235	297	192
Departures.....	+14	-23	+16	-6	-1	+43	-13	+25	-32	+64	+15	+44	+101	-32	-35	.....	-38	+12	+60	+52	+47	-14	-24	-14	.....	-12
Feb. 5.....	236	282	249	156	268	107	35	290	181	344	273	342	366	224	271	293	125	182	134	364	410	217	287	302	330	254
Feb. 6.....	317	223	287	134	126	170	23	141	109	66	284	330	324	230	194	293	173	189	79	381	.....	149	223	331	316	216
Feb. 7.....	293	169	156	197	111	83	15	271	115	142	265	190	269	168	186	243	181	203	93	280	362	98	102	319	275	160
Feb. 8.....	303	263	172	243	172	112	88	218	63	320	291	302	277	88	83	295	194	218	67	376	417	230	148	340	194	86
Feb. 9.....	342	261	238	218	232	67	105	266	214	307	238	144	80	262	249	140	220	193	63	158	385	111	178	348	46	253
Feb. 10.....	359	314	334	184	267	272	79	392	235	343	135	323	364	229	217	38	149	219	201	192	368	167	149	272	308	202
Feb. 11.....	373	275	78	249	314	242	83	126	282	190	238	337	363	317	331	280	189	246	129	360	137	197	300	340	166	323
Means.....	318	255	216	197	213	150	57	243	180	245	246	281	292	217	219	226	176	207	110	302	350	167	198	322	234	214
Departures.....	+105	+51	-33	+41	+39	-104	0	+6	+2	+62	+48	-41	-8	-3	+6	.....	+3	+59	-145	+25	+101	+16	+29	+56	.....	-3
Feb. 12.....	315	274	316	268	305	126	60	320	293	116	95	256	290	353	341	190	223	289	115	277	93	175	382	356	36	339
Feb. 13.....	294	244	312	195	258	274	68	342	280	281	308	303	371	347	334	327	247	286	252	396	221	197	340	275	385	320
Feb. 14.....	306	257	328	192	176	134	42	384	196	343	287	312	412	282	277	338	238	217	269	420	326	124	286	370	336	247
Feb. 15.....	148	151	341	39	80	145	27	365	97	111	121	318	406	122	116	278	66	56	108	369	397	15	62	177	253	134
Feb. 16.....	87	121	133	169	222	268	29	33	58	324	224	167	152	116	179	269	175	72	286	362	374	262	87	319	135	43
Feb. 17.....	379	111	116	117	364	190	76	291	132	313	232	322	193	161	197	333	62	362	382	326	318	149	400	17	286	97
Feb. 18.....	212	353	130	258	229	231	87	139	291	278	320	367	379	358	349	85	284	78	215	268	275	248	186	204	422	323
Means.....	249	216	239	177	234	195	54	268	192	252	227	292	315	248	256	264	185	194	136	341	287	167	245	245	265	216
Departures.....	+19	-11	-17	-42	+38	-94	-15	+10	-6	+29	-29	-30	-45	+9	+5	.....	-32	+14	-148	+29	+18	-5	+51	-26	.....	-26
Feb. 19.....	81	330	173	317	274	303	86	422	322	102	242	407	424	396	374	323	425	330	310	404	205	188	359	258	422	370
Feb. 20.....	52	231	372	328	103	367	83	175	220	291	349	323	414	274	290	393	174	55	414	436	215	128	221	317	429	284
Feb. 21.....	402	219	396	231	114	410	107	424	65	252	336	388	415	108	110	265	309	366	354	441	407	247	272	249	423	103
Feb. 22.....	.....	361	168	291	220	403	91	234	283	307	231	332	440	320	378	179	306	350	417	354	414	224	148	376	414	331
Feb. 23.....	406	229	375	260	272	411	121	405	320	255	330	384	448	366	388	158	222	298	422	357	398	237	330	92	441	385
Feb. 24.....	412	189	174	179	283	420	39	231	302	182	375	297	388	389	378	344	172	313	435	451	476	123	218	181	450	364
Feb. 25.....	425	198	212	192	244	365	24	193	174	144	373	294	383	209	212	307	253	197	392	380	404	204	210	254	455	241
Means.....	296	251	267	257	216	383	79	298	241	219	320	346	416	295	300	281	290	272	392	403	360	198	251	247	434	297
Departures.....	+31	-1	-15	+47	-11	+111	-7	+35	+53	-21	+58	+8	+96	+22	+34	.....	+31	+61	+90	+71	+64	+12	+29	-41	.....	+29

## ACCUMULATED DEPARTURES ON FEB. 25, 1947

+840	+224	-532	+161	+245	-301	.....	+1,064	-84	+280	+868	-28	+2,100	-266	-357	.....	-651	+1,442	-896	+1,939	.....	-49	+1,197	+56	.....	.....	.....
------	------	------	------	------	------	-------	--------	-----	------	------	-----	--------	------	------	-------	------	--------	------	--------	-------	-----	--------	-----	-------	-------	-------

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY, 1947

By Lucy T. Day

[Equatorial Division, U. S. Naval Observatory]

[Communicated by the Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive towards the north. Areas are corrected for foreshortening and expressed in millionths of Sun's hemisphere. For each day under Mount Wilson group number, longitude, latitude, area of spot or group, and spot count, are included respectively: number of groups, assumed longitude of center of the disk, assumed latitude of center of the disk, total areas of spots and groups, and total spot count.

Date	East- ern stand- ard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate qual- ity	Observatory
			Dif- fer- ence in longi- tude	Lon- gi- tude	Lat- i- tude	Dis- tance from cen- ter of disk				
1947 Feb. 1	A m 10 36	8385 8384 8382 8382 8382 8381 8381 8383 8377 8377	-64 -57 -50 -46 -45 -43 -35 -27 +36 +69 +79	149 156 163 167 168 170 178 186 249 282 292	-16 -28 -13 -15 -17 -14 -12 -10 -12 -21 -19	65 60 50 47 47 44 35 27 36 69 79	24 24 291 194 218 485 24 12 24 194 291	2 3 8 9 11 10 5 6 5 8 4	G	U. S. Naval.
		(6)		(213)	(-6)		1,781	71		
2	10 37	8386 8385 8384 8382 8382 8382 8380 8383 8377	-80 -49 -43 -38 -32 -31 +27 +49 +83	120 151 157 162 168 169 227 249 283	-3 -15 -29 -12 -17 -14 +13 -13 -21	80 49 47 38 34 32 33 49 83	339 170 6 121 121 630 6 97 242	1 6 1 11 12 5 1 6 2	F	Do.
		(7)		(200)	(-6)		1,732	45		
3	10 41	8386 8385 8384 8387 8382 8382 8382 8381 8383 8383	-68 -35 -30 -26 -23 -19 -18 +5 +62 +68	119 152 157 161 164 168 169 192 249 255	-4 -16 -29 +33 -13 -18 -15 -10 -13 -10	68 37 36 48 25 22 21 17 62 68	339 291 12 12 145 97 630 24 73 170	1 11 1 1 12 7 3 4 5 1	F	Do.
		(7)		(187)	(-6)		1,793	46		
4	14 40	8391 8388 8386 8385 8385 8384 8382 8382 8382 8390 8383	-80 -68 -54 -23 -17 -17 -8 -4 -2 +17 +83	92 104 118 149 155 155 164 168 170 189 255	-22 +29 -4 -17 -16 -30 -13 -17 -16 -28 -12	80 76 54 25 20 28 11 12 10 28 83	73 48 339 242 194 48 170 291 436 97 194	4 2 1 25 12 9 26 9 1 12 3	G	Mt. Wilson.
		(8)		(172)	(-6)		2,132	104		
5	10 53	8392 8391 (*) 8391 8388 8386 8385 8385 8382 8382 8382 8382 8390	-77 -70 -70 -60 -57 -41 -11 -3 +4 +4 +8 +9 +30	84 91 91 104 104 120 160 158 165 165 169 170 191	-19 -23 -6 -24 +28 -4 -17 -16 -13 -17 -18 -16 -27	77 70 70 61 67 62 17 17 13 12 14 13 35	48 97 12 36 48 267 170 267 194 48 73 630 73	6 11 3 9 4 2 21 10 32 12 11 6 13	VG	Do.
		(8)		(161)	(-6)		1,963	140		
6	10 6	8393 8392 8392 8392 8391 8388 8386 8385 8382 8382 8382 8390	-75 -70 -65 -57 -50 -46 -42 -29 +10 +12 +18 +22 +46	73 78 83 91 98 102 106 119 158 160 166 170 194	-2 -21 -18 -23 -22 -24 +29 -4 -17 -17 -14 -15 -30	75 70 66 59 51 48 55 29 14 16 21 25 50	12 121 48 121 48 12 24 339 242 194 121 630 12	1 4 3 6 1 1 1 5 12 8 2 1	F	U. S. Naval.
		(8)		(148)	(-6)		1,924	46		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY 1947—Continued

Date	East- ern stand- ard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate qual- ity	Observatory
			Dif- fer- ence in longi- tude	Lon- gi- tude	Lat- i- tude	Dis- tance from cen- ter of disk				
1947 Feb. 7	<sup>h</sup> 10 <sup>m</sup> 25	8393	-65	70	-3	65	24	5	F	U. S. Naval.
		8395	-58	77	+4	60	12	3		
		8392	-54	81	-20	55	533	13		
		8392	-47	88	-21	49	388	4		
		8391	-37	98	-22	40	73	6		
		8391	-31	104	-25	35	24	1		
		8394	-22	113	-19	24	48	3		
		8386	-15	120	-4	15	315	1		
		8385	+15	150	-17	19	242	4		
		8385	+22	157	-17	24	291	8		
		8382	+31	166	-13	31	48	5		
		8382	+35	170	-15	36	533	2		
		8390	+59	194	-30	61	24	1		
		(9)	(135)	(-6)			2,555	56		
8	10 11	8396	-70	52	+12	75	145	1	G	Do.
		8397	-69	53	-13	69	12	2		
		8393	-50	72	-3	50	48	4		
		8393	-44	78	-3	44	48	4		
		8395	-43	79	+4	45	12	1		
		8392	-41	81	-21	43	485	10		
		8392	-33	89	-22	36	970	9		
		8392	-24	98	-23	29	97	11		
		8391	-18	104	-25	26	12	1		
		8394	-9	113	-20	16	36	4		
		8386	-1	121	-4	2	242	1		
		8385	+27	149	-17	29	145	6		
		8385	+35	157	-17	37	242	11		
		8382	+46	168	-13	47	73	6		
		8382	+48	170	-16	49	485	2		
		(10)	(122)	(-6)			3,052	73		
9	13 2	8396	-56	51	+11	58	97	1	F	Do.
		8393	-33	74	-3	33	194	7		
		8392	-30	77	-22	32	533	1		
		8395	-28	79	+4	31	97	3		
		8392	-19	88	-23	24	1,067	6		
		8392	-11	96	-23	20	121	7		
		8391	-7	100	-23	18	24	1		
		8394	+5	112	-20	14	73	3		
		8386	+13	120	-4	13	242	1		
		8385	+41	148	-17	42	97	4		
		8385	+51	158	-16	51	218	2		
		8382	+61	168	-16	61	485	2		
		(9)	(107)	(-7)			3,248	38		
10	10 18	8400	-71	24	-10	71	145	1	G	Do.
		8396	-42	53	+11	46	97	1		
		8393	-19	76	-3	20	97	11		
		8392	-18	77	-22	23	533	1		
		8395	-16	79	+4	36	6	1		
		8392	-6	89	-22	16	1,503	26		
		8392	+7	102	-23	18	12	1		
		8394	+17	112	-20	21	61	3		
		8386	+25	120	-4	25	242	1		
		8385	+53	148	-17	53	73	2		
		8385	+63	158	-16	63	218	2		
		8382	+74	169	-15	74	582	1		
		(10)	(95)	(-7)			3,678	59		
11	10 43	8401	-80	2	-19	80	145	1	G	Do.
		8401	-75	7	-18	75	145	1		
		8400	-58	24	-11	58	145	1		
		8396	-30	52	+11	35	97	1		
		8397	-28	54	-16	30	24	2		
		8392	-7	75	-23	18	630	3		
		8393	-5	77	-3	7	97	7		
		8395	-3	79	+4	12	145	7		
		8399	-1	81	+23	30	12	1		
		8392	+5	87	-23	17	1,503	29		
		8398	+6	88	+17	25	24	1		
		8392	+15	97	-23	21	121	4		
		8394	+29	111	-19	31	48	1		
		8386	+39	121	-4	39	242	1		
		8385	+79	161	-16	79	218	1		
		8382	+88	170	-16	88	145	1		
		(13)	(82)	(-7)			3,741	62		
12	12 38	8404	-70	357	+17	73	48	2	G	Do.
		8401	-66	2	-18	66	242	10		
		8401	-59	8	-18	60	194	1		
		8400	-43	24	-12	43	145	1		
		8403	-40	27	+15	46	24	7		
		8396	-16	51	+10	24	121	1		
		8393	+5	72	-3	7	73	7		
		8392	+7	74	-23	18	582	1		
		8395	+12	79	+4	16	121	12		
		8393	+14	81	-3	15	24	2		
		8399	+14	81	+23	34	12	2		
		8392	+18	85	-22	22	873	25		
		8398	+19	86	+15	21	19	1		



POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR  
FEBRUARY 1947—ContinuedPOSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR  
FEBRUARY 1947—Continued

Date	East- ern stand- ard time	Mount Wilson group No.	Heliographic Dif- ference in longi- tude	Longi- tude	Latitude	Distance from center of disk	Area of spot or group	Spot count	Plate qual- ity	Observatory
1947 Feb. 12	A M 12 38	8392 8392 8386	+24 +24 +52	91 91 119	-23 -20 -4	28 27 52	388 291 242	16 1 1		U. S. Naval
		(11)		(67)	(-7)		3,392	90		
13	10 38	8405 8404 8401 8401 8403 8400 (*) (*) 8402 8396 8392 8395 8393 8392 8392 8386	-70 -57 -53 -45 -33 -31 -31 -27 -25 -4 +19 +24 +26 +31 +38 +65	345 358 2 10 22 24 24 28 30 51 74 79 81 86 93 120	+21 +17 -18 -18 +17 -12 -7 -13 +10 -23 +4 -3 -23 -19 -4	74 61 53 45 41 33 31 30 32 18 24 26 27 33 38 65	12 61 194 194 12 121 12 24 48 121 582 61 48 1,212 291 242	3 3 11 7 1 1 3 2 1 1 3 8 4 24 1 1	G	Do.
		(13)		(55)	(-7)		3,235	75		
14	10 33	8406 8406 8405 8404 8401 8401 (*) (*) 8403 8400 8402 8409 8396 8392 8392 8399 8395 8393 8392 8392 (*) 8386	-65 -60 -57 -43 -39 -31 -21 -21 -20 -18 -10 -4 +10 +31 +37 +37 +39 +41 +46 +51 +51 +78	337 342 345 359 3 11 21 21 22 24 32 38 52 73 79 79 81 83 88 93 93 120	+20 +20 +21 +17 -19 -18 +11 +11 +17 -12 +11 +22 +10 -23 -21 +22 +4 -4 -30 -23 +38 -4	70 64 62 50 40 32 28 32 19 21 29 20 33 29 47 41 41 47 52 52 65 78	12 6 6 73 170 291 12 12 97 73 6 97 582 242 10 48 48 1,261 533 12 242	1 2 1 4 6 7 2 1 1 2 1 1 3 10 6 8 16 12 3 1	G	Do.
		(16)		(42)	(-7)		3,535	96		
15	12 0	8406 8404 8404 8401 8401 8403 8400 8402 8409 8408 8396 8392 8407 8392 8399 8392 8392 (12)	-46 -30 -23 -23 -14 -5 -3 +8 +10 +14 +24 +46 +49 +50 +51 +60 +65	342 358 5 5 14 23 25 36 38 42 52 74 77 78 79 88 93	+18 +17 +16 -19 -17 +16 -12 +10 +22 -24 +10 -23 +12 +22 +24 -23 -23	51 38 33 25 18 24 6 19 31 21 29 48 52 51 59 60 65	12 48 24 170 291 24 97 24 24 6 97 630 24 194 12 1,067 339	3 1 1 12 5 1 1 3 1 1 1 1 1 7 1 12 8	F	Do.
		(12)		(28)	(-7)		3,083	63		
16	11 20	8411 8406 8404 8404 8401 8400 8403 8400 8402 8396 8410 8392 8399 8392 8392 8392 (11)	-80 -32 -17 -9 -5 +8 +10 +11 +22 +30 +47 +59 +63 +70 +78 +78	296 344 359 7 11 24 26 27 38 55 63 75 79 86 94 94	-80 +19 +17 +17 -18 -18 +17 -12 +10 +9 -16 -23 +23 -20 -22 -25	80 41 30 27 13 14 27 28 42 47 59 69 61 78 79	48 48 24 12 582 24 73 73 16 121 630 24 533 824 339	2 8 2 1 31 10 11 1 4 9 11 3 7 4 10	G	Mt. Wilson.
		(11)		(16)	(-7)		3,444	115		
17	10 38	8411 8411 8406 8404 8404 8401 8401 8403	-73 -67 -18 -5 -3 +3 +3 +7	290 296 345 358 6 6 10 24	-21 -17 +19 +17 +16 -19 -17 +18	74 67 32 24 23 12 13 33	97 48 24 12 6 339 364 73	7 2 1 1 1 8 8 9	G	U. S. Naval.

See footnotes at end of table.

Date	East- ern stand- ard time	Mount Wilson group No.	Heliographic Dif- ference in longi- tude	Longi- tude	Latitude	Distance from center of disk	Area of spot or group	Spot count	Plate qual- ity	Observatory
1947 Feb. 17	A M 10 38	8400 8400 (*) 8396 8410 8392 8392	+21 +22 +35 +51 +60 +71 +83	24 25 38 54 63 74 86	-17 -12 +23 +11 -14 -23 -20	24 23 46 54 60 72 83	73 73 12 48 170 533 970	5 1 3 1 10 1 8		U. S. Naval
		(10)		(3)	(-7)		2,842	66		
18	10 20	8416 8415 8411 8411 8404 8401 8414 8401 8400 8403 8400 8403 8412 8396 8410 8392	-84 -70 -60 -53 +8 +16 +20 +22 +34 +34 +37 +37 +55 +63 +71 +85	266 280 280 297 358 6 10 12 24 24 27 27 45 53 61 75	-11 +21 -20 -17 +17 -19 +11 -17 -17 -13 +17 -11 +10 -15 -24	84 74 60 53 27 20 26 24 36 42 37 44 56 65 72 85	97 48 97 24 6 339 12 48 24 73 48 12 97 24 533	2 3 4 2 1 13 1 12 4 4 1 2 1 1 1	F	Do.
		(12)		(350)	(-7)		1,821	54		
19	11 11	8416 8416 8415 8411 8411 8401 8401 8417 8400 8400 8403 8413 8396	-84 -73 -58 -45 -37 +29 +37 +43 +48 +51 +52 +63 +78	252 263 278 291 299 5 13 19 24 27 28 39 84	-12 -9 +22 -18 -17 -19 -18 +23 -17 -12 +17 +23 +9	84 73 62 46 38 31 38 52 48 61 58 68 79	48 97 97 145 97 291 339 24 145 97 121 12 97	8 6 6 10 7 10 11 6 11 9 5 1	F	Mt. Wilson.
		(9)		(336)	(-7)		1,610	87		
20	11 21	8419 8416 8416 8415 8411 8418 8411 8401 8414 8401 8417 8400 8403 8400 8403	-72 -69 -60 -45 -30 -26 -20 +42 +49 +50 +57 +61 +62 +63 +68	251 254 263 278 293 297 303 5 12 13 20 24 25 26 31	+27 -11 -9 +22 -18 +23 -17 -19 +11 -17 +23 -17 +19 -12 +17	79 69 60 52 32 39 23 43 52 50 62 61 63 71	97 73 97 97 194 12 121 145 36 388 12 97 73 24	2 6 9 9 29 3 9 8 6 5 3 8 1 1 3	VG	Do.
		(10)		(323)	(-7)		1,539	102		
21	11 6	8419 8416 8416 8416 8415 8411 8411 8401 8401 8414 8403 8400 8400	-62 -53 -50 -45 -30 -20 -14 +32 +62 +64 +71 +75 +81	248 257 260 265 280 290 296 2 12 14 21 25 31	+25 -12 -12 -10 +21 -20 -16 -18 -16 +12 +19 -12 -16	68 53 50 45 41 23 17 52 62 66 75 76 81	97 73 121 24 97 170 194 73 339 24 48 97 97	3 3 7 1 1 13 30 9 8 5 1 1 1	G	U. S. Naval.
		(8)		(310)	(-7)		1,827	89		
22	10 14	8420 8419 8416 8416 8416 8415 8411 8411 8401 8401 8414	-71 -50 -43 -38 -33 -19 -8 -6 +65 +77 +79	226 247 254 259 264 278 289 297 5 14 16	-12 +25 -12 -12 -10 +21 -19 -16 -18 -15 +12	72 58 43 38 33 34 15 10 69 77 80	12 73 97 194 61 97 170 242 194 242 24	1 3 6 12 4 1 17 16 15 4 1	G	Do.
		(7)		(297)	(-7)		1,430	81		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR  
FEBRUARY 1947—Continued

Date	East- ern stand- ard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate qual- ity	Observatory
			Dif- ference in longi- tude	Lon- gi- tude	Lat- tude	Dis- tance from cen- ter of disk				
1947 Feb. 23	h m		°	°	°	°				
	11 4	8421	-63	221	+19	67	145	3	F	U. S. Naval.
		8419	-37	247	+26	49	145	5		
		8416	-30	254	-11	30	48	5		
		8416	-25	259	-12	26	339	11		
		8416	-19	265	-9	19	48	2		
		8415	-5	279	+21	28	73	4		
		8411	+10	294	-18	15	727	20		
		8411	+20	304	-17	22	267	5		
		(5)		(284)	(-7)		1,792	55		
	24 11 0	8425	-78	192	-11	78	24	1	G	Mt. Wilson.
		8421	-60	220	+19	56	121	4		
		8424	-60	220	+21	57	48	4		
		8423	-48	222	+25	58	6	1		
		8419	-24	246	+26	41	48	10		
		8416	-17	253	-12	18	145	14		
		8416	-10	260	-11	11	194	25		
		8422	+7	277	-38	33	36	8		
		8415	+9	279	+20	28	36	5		
		8411	+20	290	-18	22	194	18		
		8411	+28	298	-17	30	388	24		
		8411	+32	302	-17	33	291	7		
		(9)		(270)	(-7)		1,531	121		
	25 10 20	8428	-88	170	-9	88	97	1	G	U. S. Naval.
		8429	-79	179	-28	79	48	1		
		8428	-75	183	-6	75	109	1		
		8425	-61	197	-12	61	12	1		
		8421	-36	222	+20	45	97	8		
		8424	-35	223	+22	44	61	8		
		8423	-32	226	+25	45	12	1		
		8419	-9	249	+26	35	24	3		
		8416	-3	255	-13	6	24	2		
		8416	+3	261	-17	11	218	17		
		8427	+6	264	+15	24	24	3		
		8426	+18	276	+16	29	6	1		
		8422	+20	278	-38	37	145	5		
		8415	+20	278	+20	33	12	2		
		8411	+36	294	-18	37	533	20		
		8411	+46	304	-17	47	533	14		
		(13)		(258)	(-7)		1,955	88		
	26 10 48	8434	-80	164	-12	80	12	1	F	Do.
		8433	-79	165	-18	79	242	1		
		8428	-73	171	-9	73	73	1		
		8429	-65	179	-28	66	24	3		
		8428	-60	184	-7	60	145	1		
		8425	-48	196	-12	48	12	2		
		8421	-21	223	+17	32	97	6		
		8424	-20	224	+20	34	242	13		
		8423	-19	225	+21	33	61	8		
		8432	-13	231	+28	37	6	1		
		8431	-10	234	+16	27	24	5		
		8419	+3	247	+26	35	12	2		
		8416	+10	254	-14	13	48	3		
		8419	+13	257	+23	33	48	4		
		8416	+16	260	-11	16	727	18		
		8427	+17	261	+14	27	97	9		
		8426	+22	266	+17	32	97	4		
		8422	+29	273	-39	42	61	1		
		8422	+37	281	-37	46	48	4		
		8411	+50	294	-18	50	436	12		
		8411	+50	294	-19	50	24	1		
		8411	+60	304	-17	60	582	5		
		(10)		(244)	(-7)		3,118	105		
	27 10 26	8434	-69	162	-12	69	24	3	VG	Do.
		8434	-67	164	-12	67	194	1		
		8433	-65	166	-17	65	291	1		
		8428	-58	173	-9	58	48	1		
		8429	-49	182	-27	50	12	3		
		8428	-47	184	-7	47	170	1		
		8425	-43	188	-13	43	24	6		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR  
FEBRUARY 1947—Continued

Date	East- ern stand- ard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate qual- ity	Observatory
			Dif- ference in longi- tude	Lon- gi- tude	Lat- tude	Dis- tance from cen- ter of disk				
1947 Feb. 27	h m		°	°	°	°				
	10 26	8425	-34	197	-13	34	24	2	VG	U. S. Naval.
		8421	-9	222	+17	26	145	7		
		8424	-9	222	+21	29	436	21		
		8423	-8	223	+22	30	48	8		
		8432	+1	232	+29	37	12	5		
		8419	+13	244	+27	38	12	7		
		8419	+25	256	+23	39	48	12		
		8416	+25	256	-11	26	73	9		
		8427	+30	261	+15	37	73	12		
		8416	+34	265	-10	34	145	13		
		8426	+36	267	+17	42	145	7		
		8422	+41	272	-39	48	48	5		
		8411	+62	293	-18	62	436	19		
		8411	+73	304	-17	74	921	9		
		(15)		(231)	(-7)		3,329	152		
	28 10 53	8434	-57	161	-12	57	97	6	G	Mt. Wilson.
		8434	-53	165	-11	53	242	2		
		8433	-49	169	-16	49	291	1		
		8428	-43	175	-9	43	48	1		
		8429	-39	179	-25	41	12	6		
		8428	-33	185	-7	33	170	1		
		8425	-29	189	-10	29	24	7		
		8425	-21	197	-11	22	48	5		
		8421	+5	223	+20	28	242	11		
		8423	+5	223	+25	33	48	17		
		8424	+6	224	+22	30	727	8		
		8419	+30	248	+27	45	12	4		
		8430	+40	258	+23	50	73	18		
		8416	+40	258	-13	40	48	13		
		8427	+43	261	+14	47	12	3		
		8426	+47	265	+17	52	12	7		
		8416	+50	268	-9	50	97	10		
		8426	+53	271	+16	57	97	1		
		8411	+80	298	-18	80	1,164	21		
		(15)		(218)	(-7)		3,464	142		

Mean daily area for 28 days = 2,520

Mean 10 g + s for 28 days = 185.4

\* Not numbered.

VG = very good; G = good; F = fair; P = poor.

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR  
FEBRUARY 1947

[Dependent on observations at Zurich Observatory and its stations at Locarno and Arosa.]

February 1947	Relative numbers	February 1947	Relative numbers	February 1947	Relative numbers
1-----	64	11-----	213	21-----	100
2-----	90	12-----	206	22-----	100
3-----	84	13-----	193	23-----	99
4-----	90	14-----	199	24-----	96
5-----	115	15-----	166	25-----	127
6-----	115	16-----	157	26-----	158
7-----	111	17-----	154	27-----	156
8-----	107	18-----	130	28-----	130
9-----	153	19-----	110		
10-----	162	20-----	132		

Mean, 28 days = 132.8



Chart I. Departure (°F.) of the Mean Temperature from the Normal, and Wind Roses for Selected Stations, February 1947

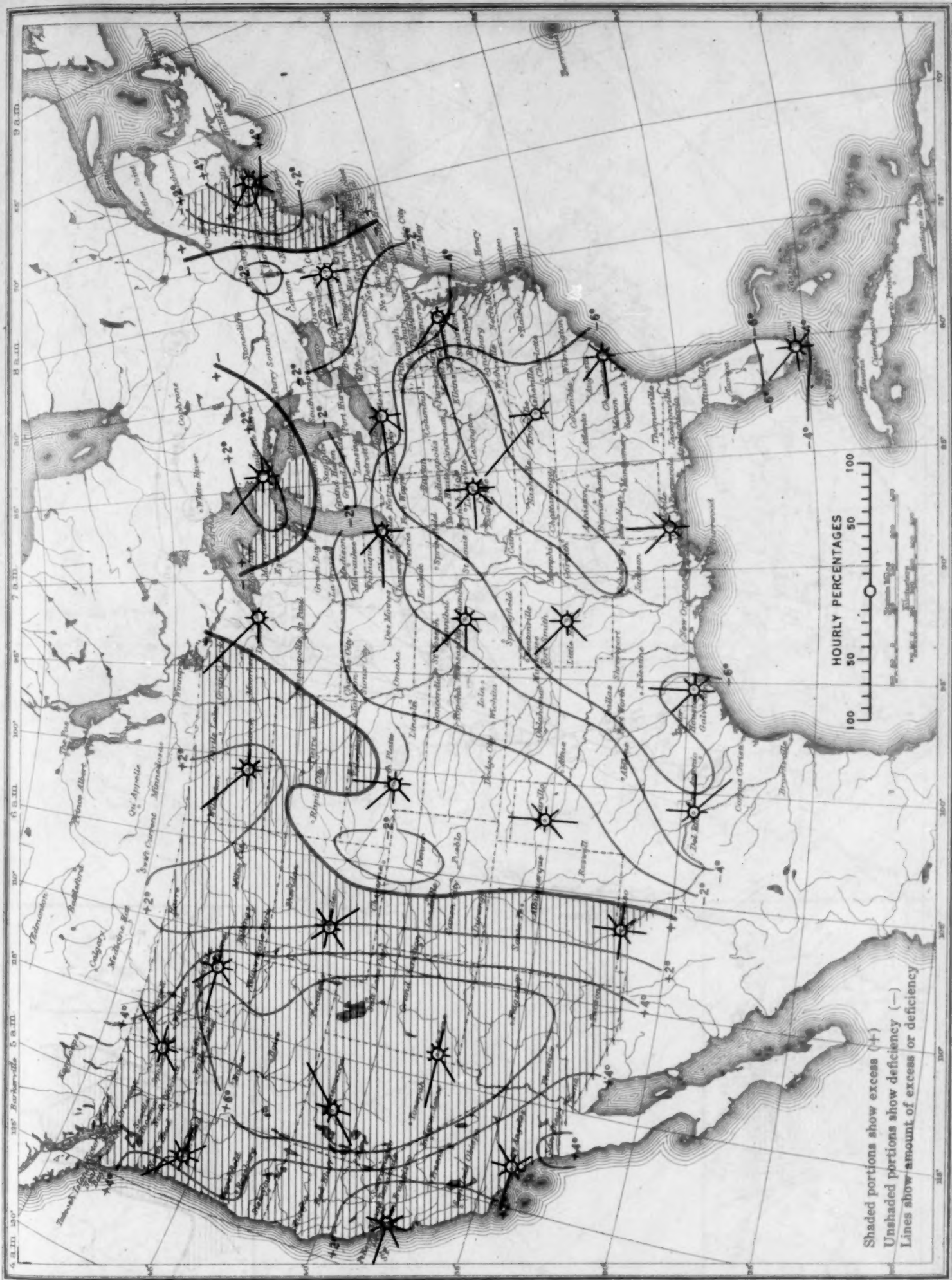
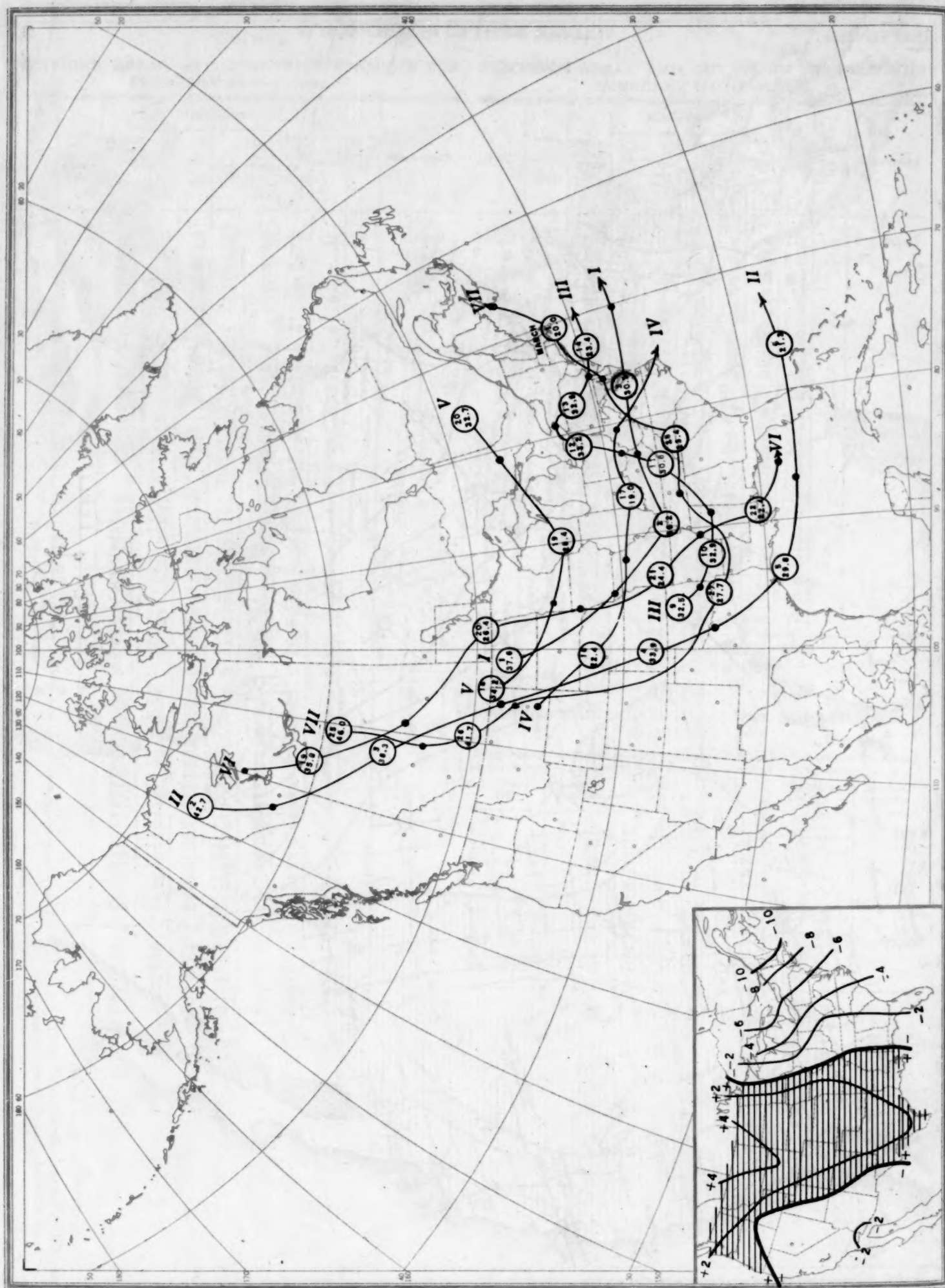


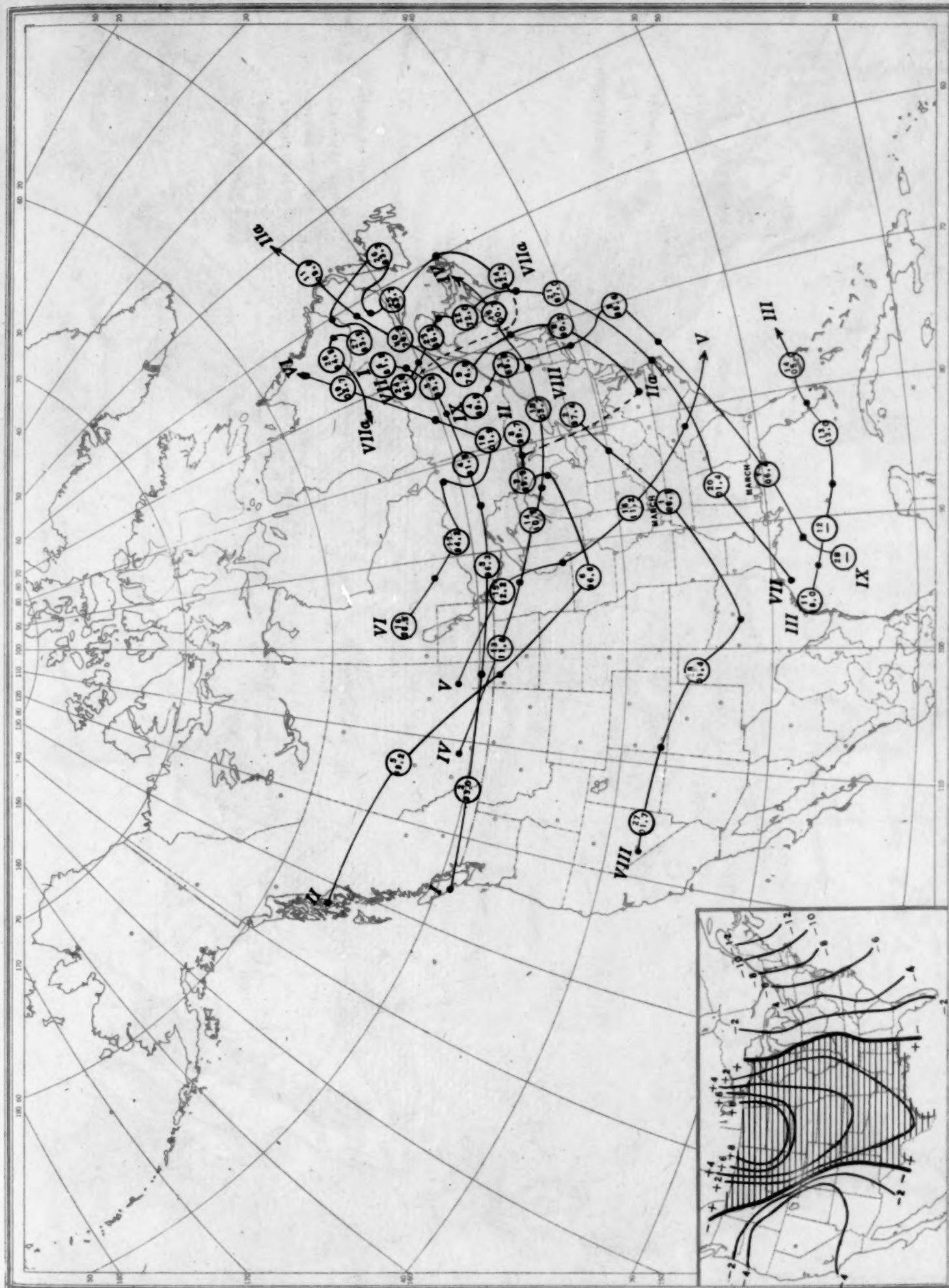
Chart II. Tracks of Centers of Anticyclones, February 1947. (Inset) Departure of Monthly Mean Pressure from Normal



Circle indicates position of anticyclone at 7:30 a. m. (76th meridian time), with barometric reading. Dot indicates position of anticyclone at 7:30 p. m. (76th meridian time)



Chart III. Tracks of Centers of Cyclones, February 1947. (Inset) Change in Mean Pressure from Preceding Month



Circle indicates position of cyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of cyclone at 7:30 p. m. (76th meridian time)





Chart V. Total Precipitation, Inches, February 1947. (Inset) Departure of Precipitation from Normal

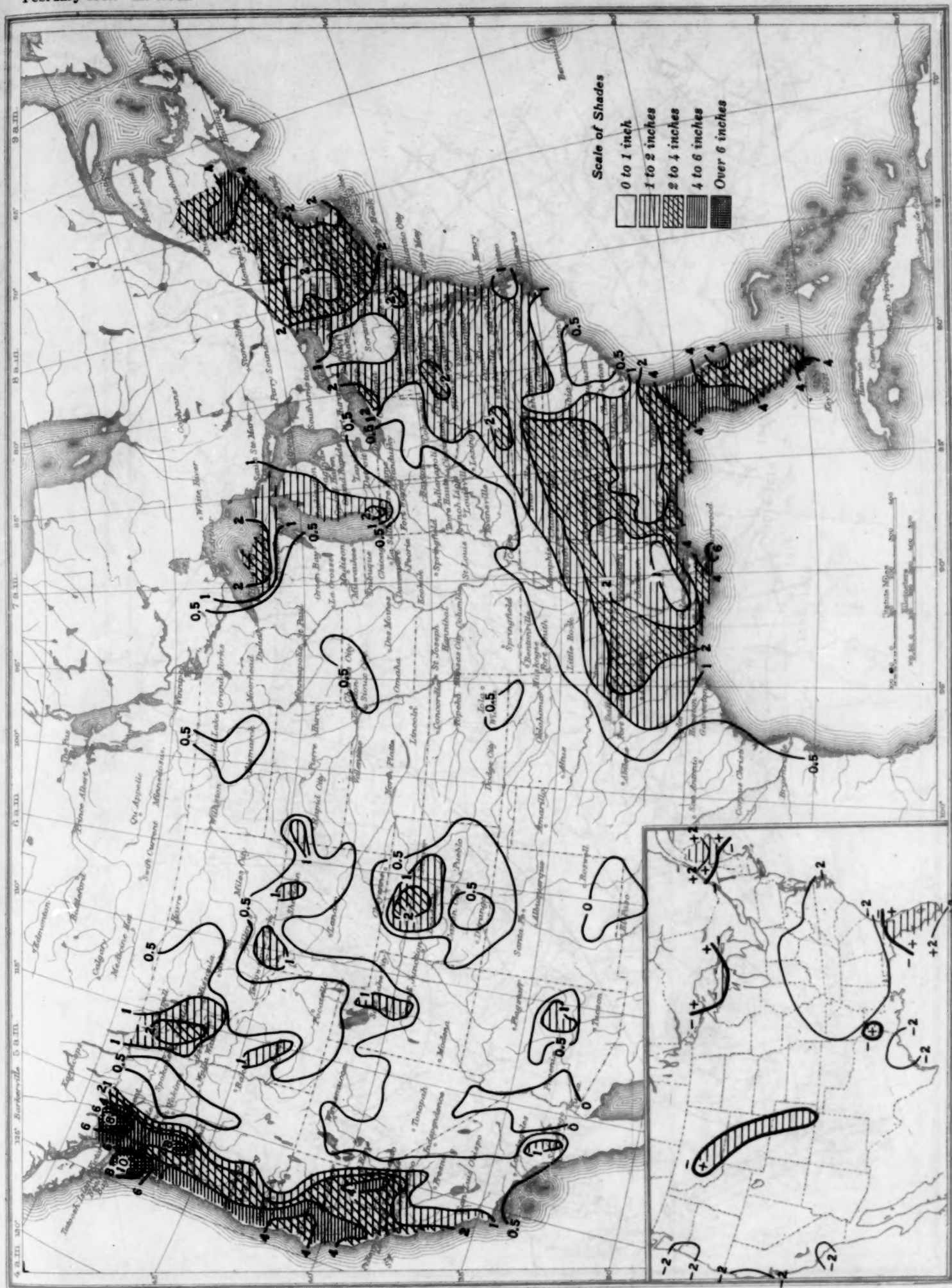


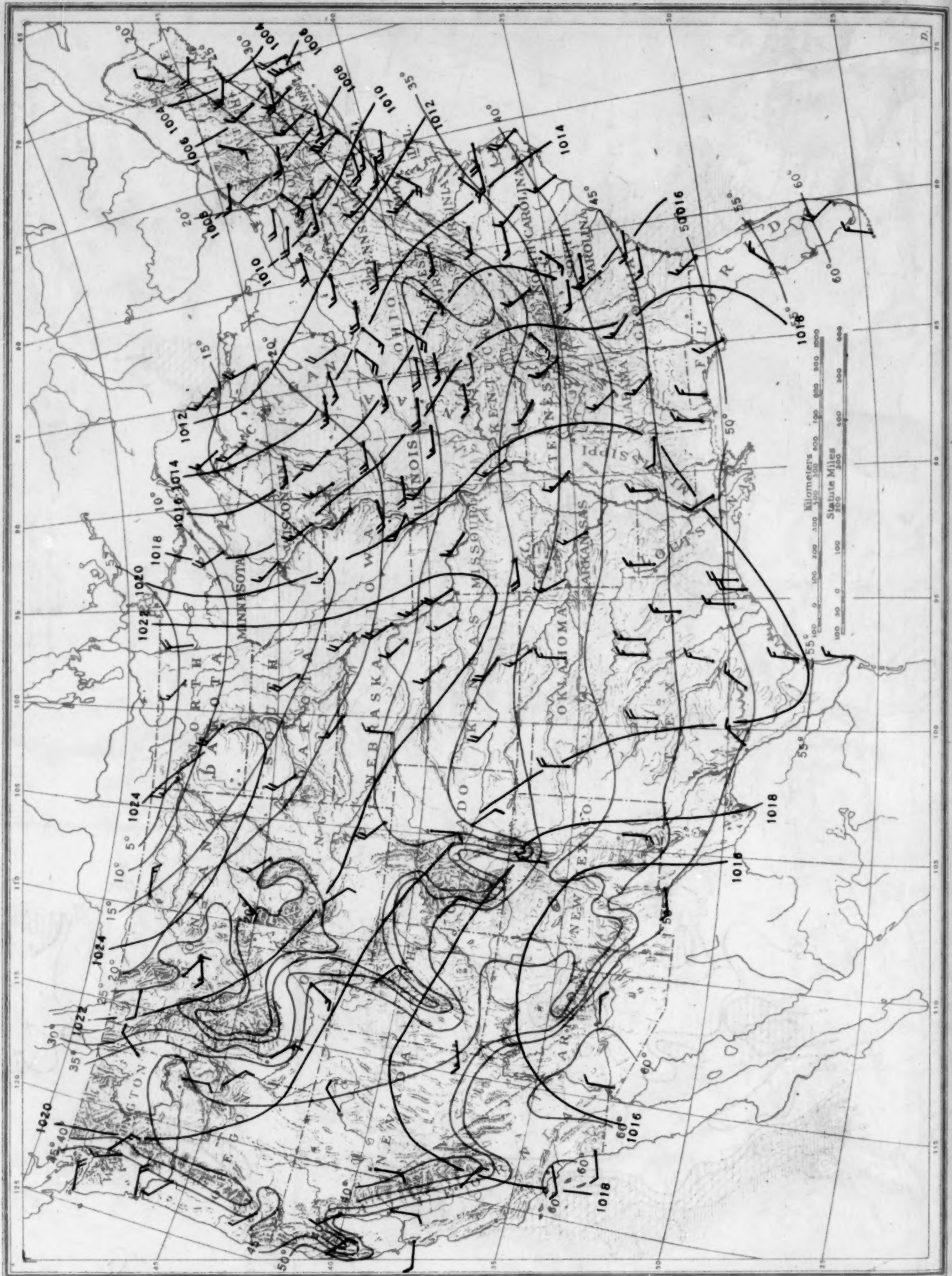
Chart VI. Isobars (mb.), at Sea Level and Isotherms ( $^{\circ}\text{F}$ .) at Surface; Prevailing Winds, February 1947



Chart VII. Total Snowfall, Inches, February 1947. (Inset) Depth of Snow on the Ground at 7:30 p. m., Monday, February 24, 1947

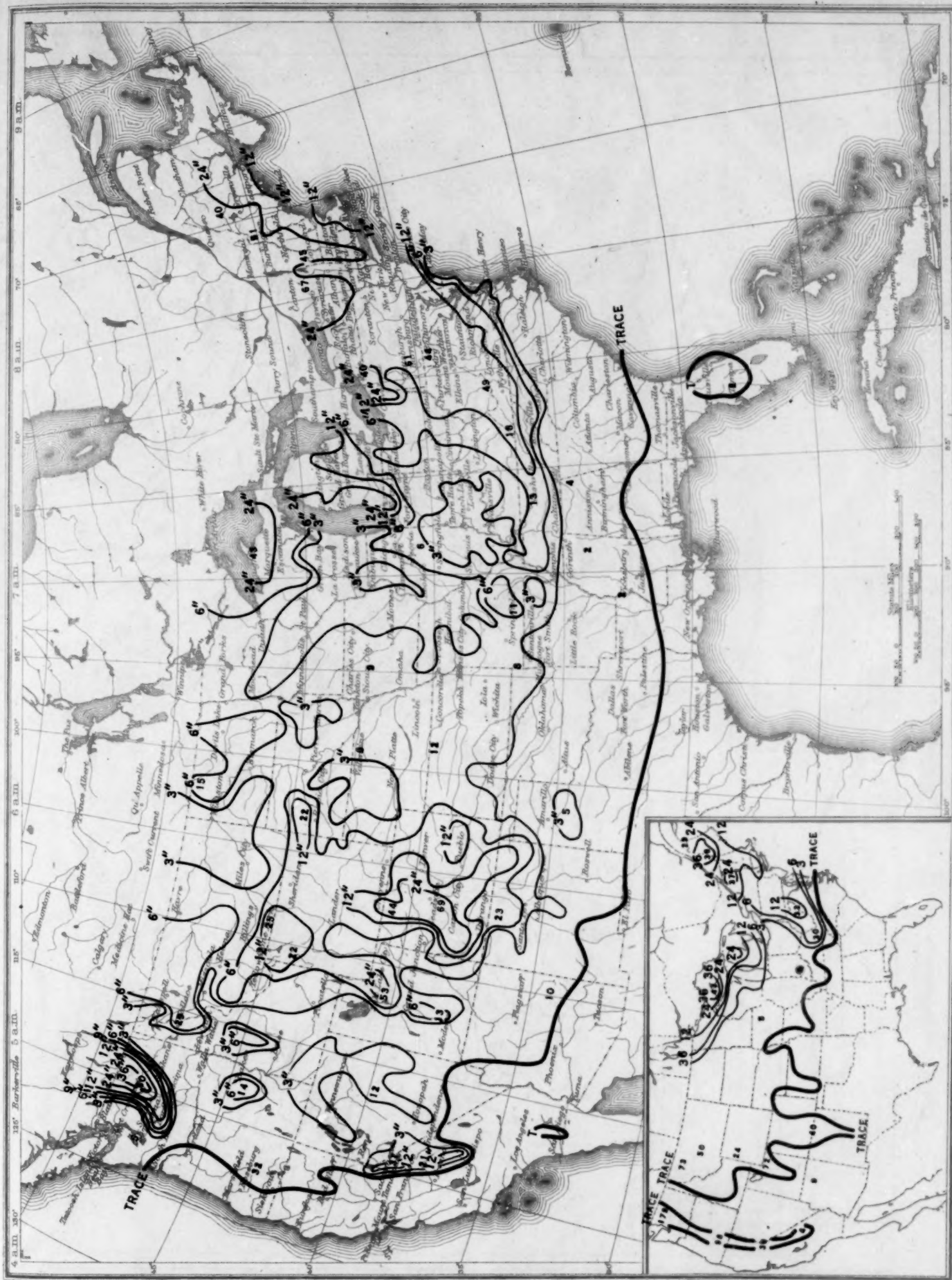
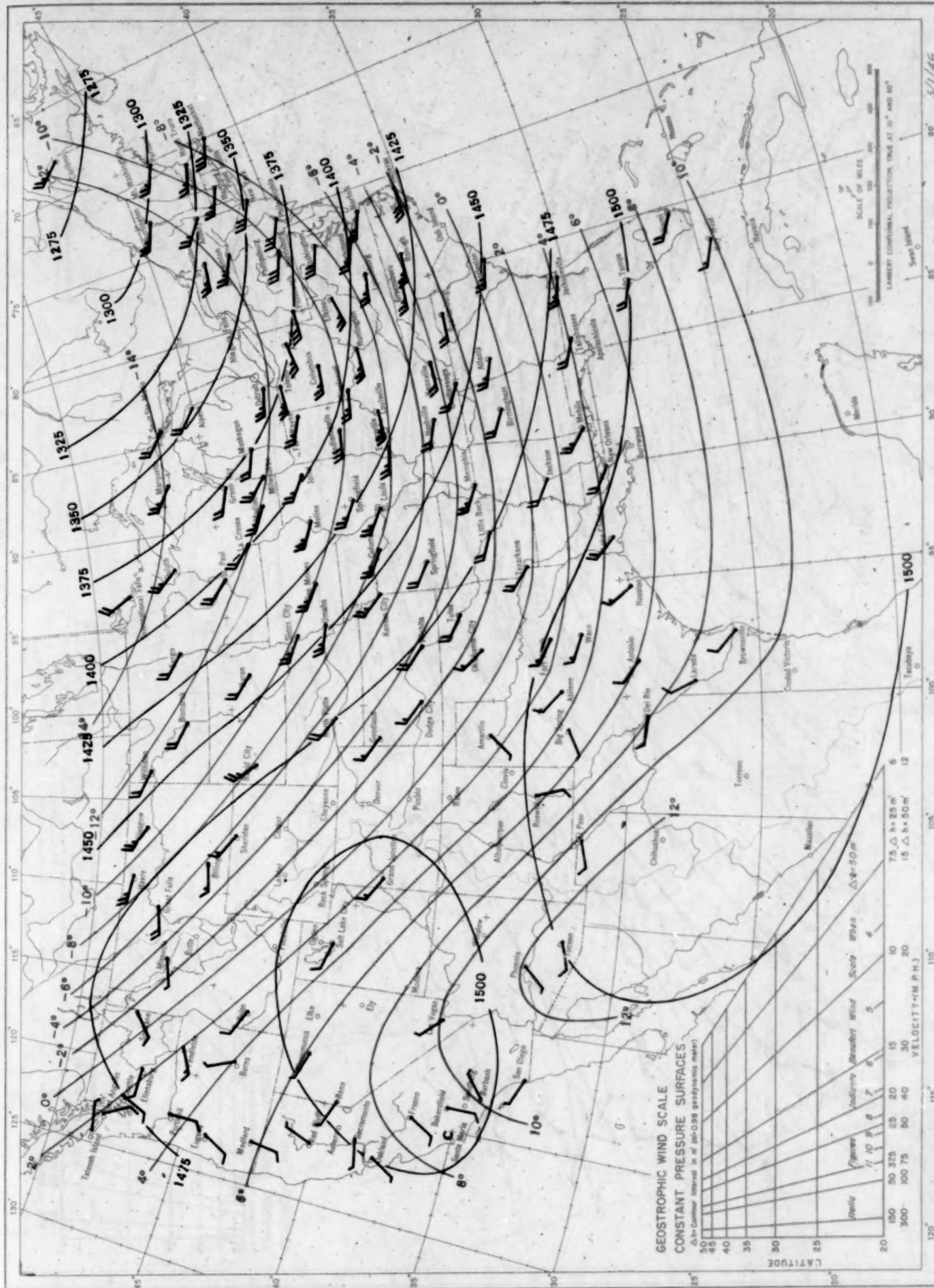




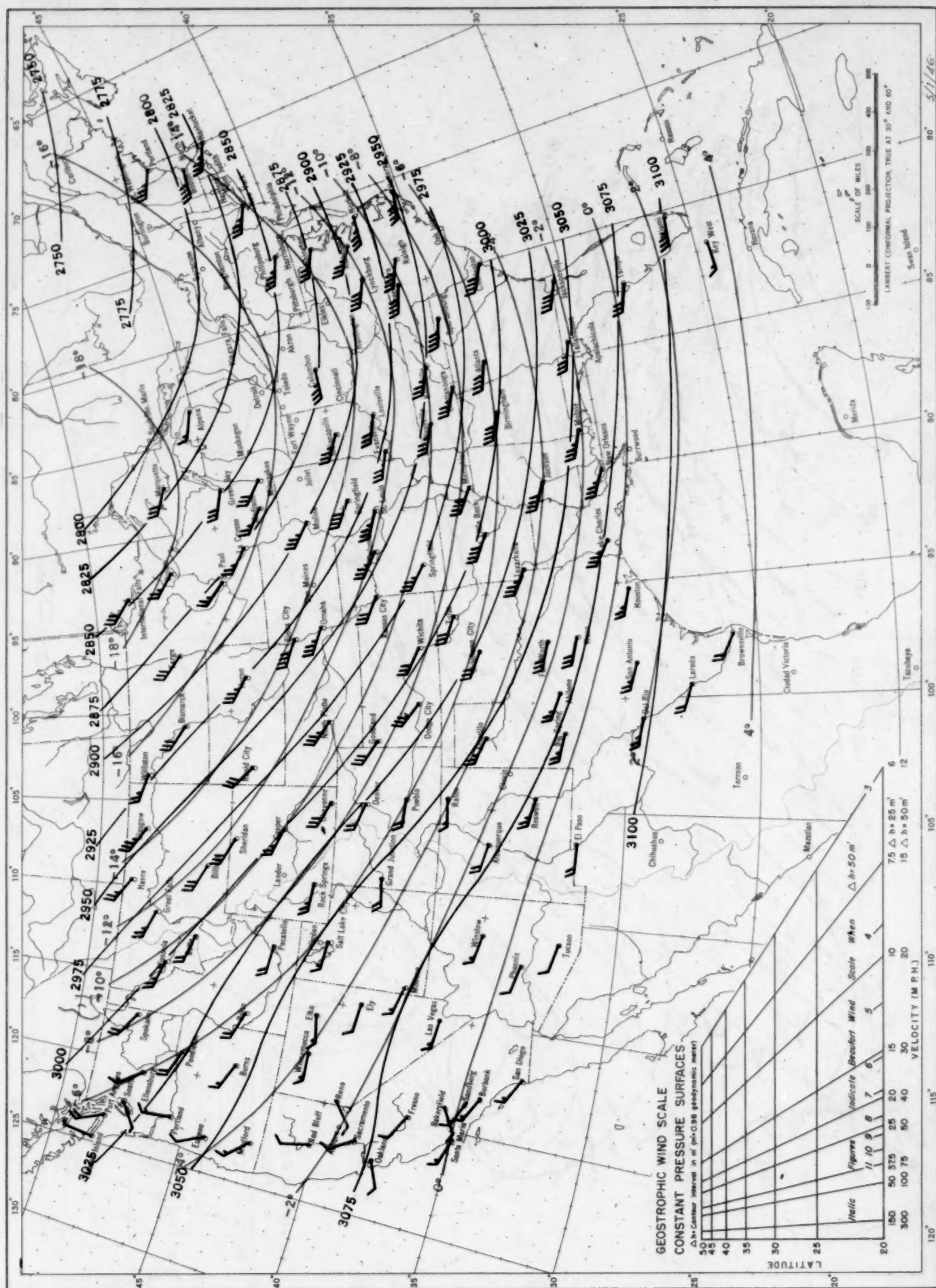


Chart VIII, February 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 850-millibar Pressure Surface, and Resultant Winds at 1.500 Meters (m.s.l.)



Contour lines and isotherms based on radiosonde observations at 0300 G.C.T., and winds based on pilot balloon observations at 2200 G.C.T.

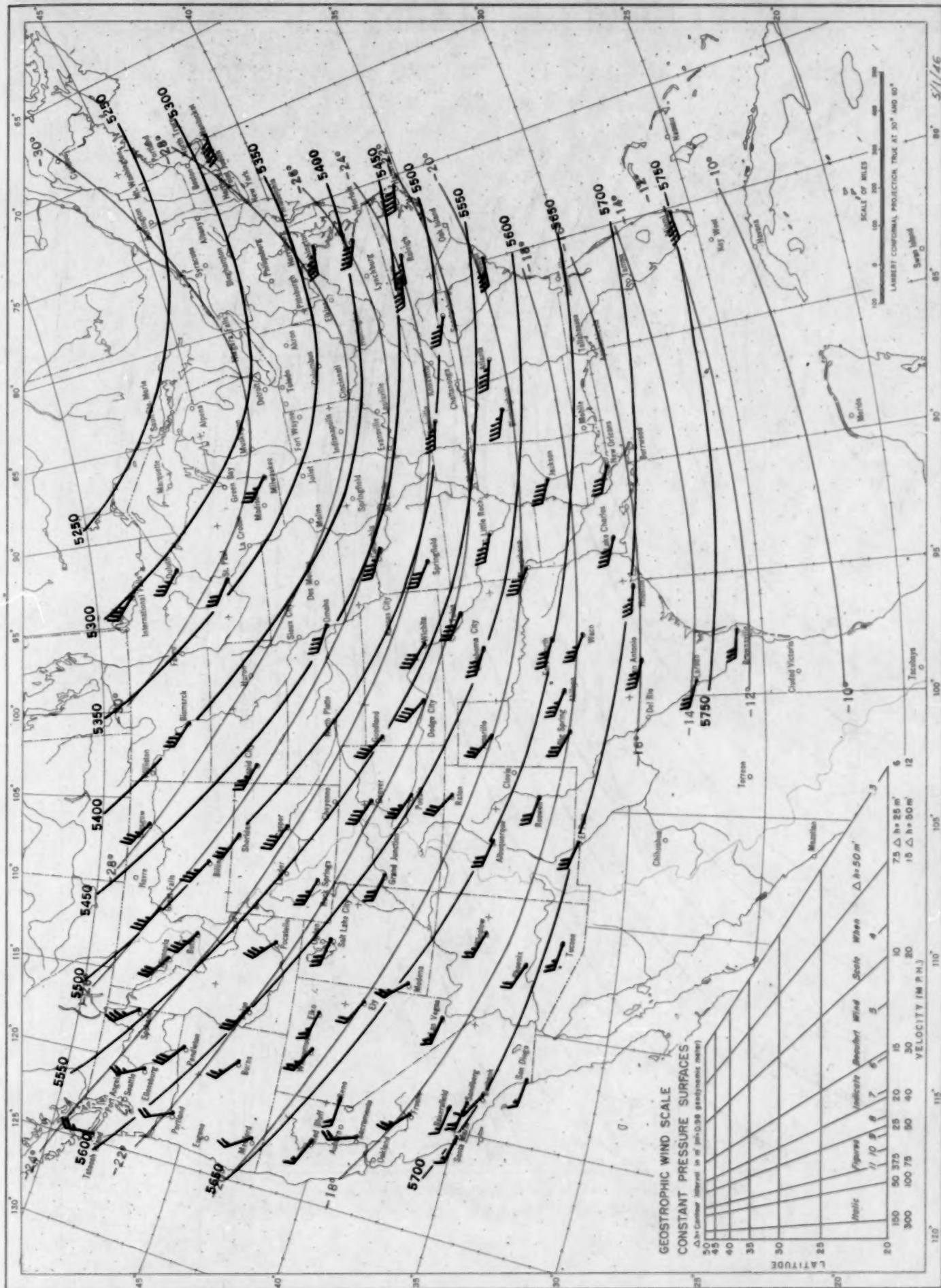
Chart IX, February 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 700-millibar Pressure Surface, and Resultant Winds at 3,000 Meters (m.s.l.)



Contour lines and isotherms based on radiosonde observations at 0300 G.C.T., and winds based on pilot balloon observations at 2200 G.C.T.



Chart X, February 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 500-millibar Pressure Surface, and Resultant Winds at 5,000 Meters (m.s.l.)



Contour lines and isotherms based on radiosonde observations at 0800 G.C.T., and winds based on pilot balloon observations at 2200 G.C.T.

Chart XI, February 1947. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meters and Isotherms in Degrees Centigrade for the 300-millibar Pressure Surface, and Resultant Winds at 10,000 Meters (m.s.l.)

